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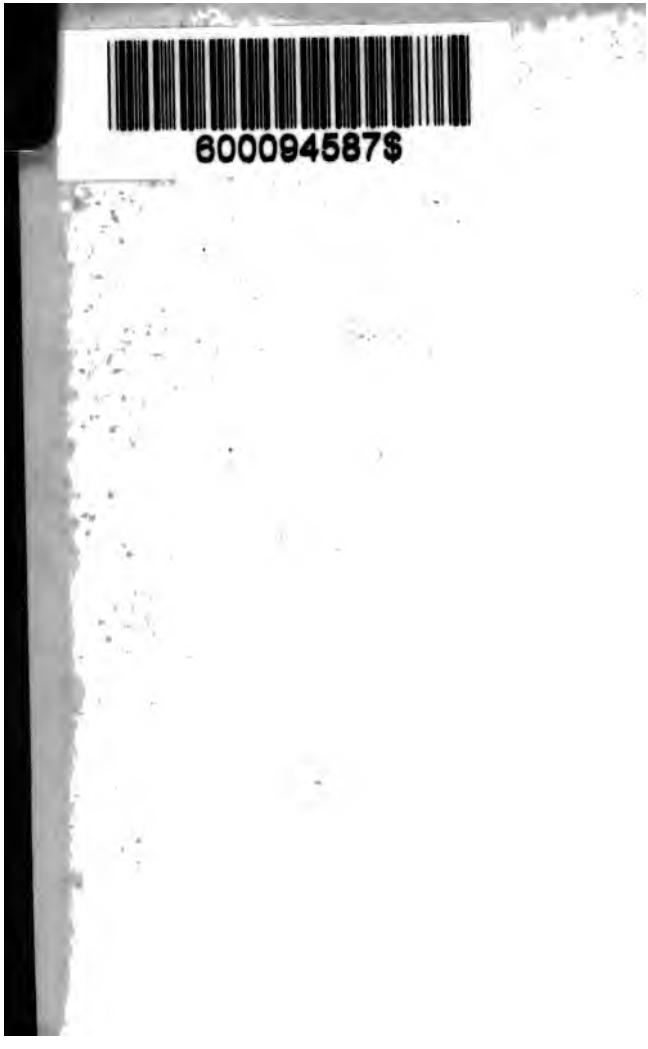
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THE PORTRAIT OF OLD AGE.

Wherein is contained a

SACRED ANATOMY

BOTH OF

SOUL *and* BODY,

AND

A perfect Account of the Infirmities of AGE incident to them Both.

BEING

A Paraphraſe upon the Six former Verſes of the XIIth Chapter of *Eccleſiaſtes*.

By *JOHN SMITH*, M.D.
Of the COLLEGE of PHYSICIANS.

The THIRD EDITION Corrected.

Nam pernicitas deſerit, Confitus ſum
Senectute, onuſtum gero Corpus, vires
Reliquere; ut Ætas mala, merx eſt ergo. Plaut.

LONDON:
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101. i. 526

TO THE

READER.

WHoſoever thou art, into whoſe hands this paraphraſe may fall, know that the author of it is not near enough any Nobleman to put it into his hands; nor hath he face enough (as is the mode of this daring age) to call at a diſtance; but could he do both, yet know alſo, he would do neither; for he deſireth not, that any thing, either of others, or his own, ſhould be patronized beyond its own native worth; and is himſelf as willing, as any touchy-headed Decriers of anatomy and anatomiſts, of all art and artiſts, that all the ſhame that is due to the ill managing of this good Subject, ſhould return upon his own pate; and ſuch is his allegiance to his king, that if he can but keep off their foul fingers from him, to which they are apt enough, he cares not how heavy they fall upon himſelf: And on the other hand, if there be any thing herein contained, of true value, it will but ſhine the brighter for the rubs and petulant endeavours of all conductitious detractors; who, being thruſt out of ſome

mercenary employments, in a few months time, by their mother wit, (which for want of good neighbours they greatly cry up themselves, and instead of bad neighbours do closely insinuate as tf all others wanted it) can get knowledge enough in physick to contemn and vilify, and in two words (viz. Calenists *and* fools) *abundantly confute all those worthy persons, who from childhood to gray-hairs, have been studying, endeavouring, and praying; have been exercising both their minds and their bodies; their heads, their hearts, and their hands; that they may become expert seconds unto nature, and meet combatants for all those dreadful enemies that the sins of man have stirred up against the peace of his own body. But beside this scum of ill conditioned* Zoili, *there are others also nibbling at the heel of learned physicians; whose wounds, though seemingly slightly inflicted, yet are far worse than the former, and that not only because they are persons of credit and knowledge, but because they pretend friendship, and kiss while they do the mischief. These are those, whom birth, education, and industry, have so securely seated in honour, that nothing can possibly dethrone them, but that which cast the angels from heaven, and man out of p[illegible] radise; that abominable* φυσίωσις, *whi[illegible] ever did, and for ever will set G[illegible] sistance; and the best of their [illegible]*

but in time mind them, that thoſe ſmart reflections without cauſe, both in private and publick, not only upon particular perſons, but upon whole ſocieties of men, half of whom they know not ſo much as by hear-ſay) ſeem to have a tincture of that virulent poiſon, which as eaſily and as quickly proceeds out of knowledge, as the worm did out of Jonah's *gourd; and will (if not ſpeedily prevented) ſoon wither into nothing all that content under which they have for a ſeaſon gladly ſhadowed themſelves. And here I am afreſh put in mind of the ſtory of* Herod, *who perſecuted the world's worthies, and, becauſe he ſaw it pleaſed the people, he proceeded farther alſo: And thus proſecuting his rage and ambition, in royal apparel, and with popular oratory, the angel of the Lord ſmote him, becauſe he gave not God the glory, and he was eaten of worms. That main and beſt end, which ſecureth all men in their undertakings, was it which firſt moved the author hereof to ſtudy ſacred philoſophy, and to apply himſelf to the interpretation of ſuch ſcriptures, as border upon that faculty unto which he hath betook himſelf ever ſince he hath had the judgment of election wherein he might be moſt ſerviceable in his generation. This was the good ſeed: but falling into a* [illegible] *and ill manured ſoil, hath, for the pre-* [illegible] *no better a blade, than what* [illegible] *however, if it pleaſe the*

Lord

the Lord to proſper, may bring forth as uſeful fruit as thoſe that ſeem more fair and flouriſhing. Herein old men may ſee their own natural faces, as in a glaſs; and young men may foreſee, what (if they live) will certainly betide them in their latter end. Syſtems and compleat treatiſes (though out of faſhion, and conſequently neglected in this mimical age) are of better uſe, than fragments of mechaniſm, and independent pieces of experimental knowledge, which by moſt men at preſent are had in greateſt honour and reputation; but, in this reſpect of honour, the groundwork of what is here diſcourſed upon far ſurpaſſeth them all; the author thereof being the wiſeſt, and the greateſt earthly potentate throughout all generations. The portraiture that is here drawn, is done by the hands of no meaner a perſon than king Solomon, *and may juſtly be called,* εἰκὼν βασιλικὴ; *that ſuperabundant wiſdom in natural things, which it pleaſed God miraculouſly to enrich him withal, beyond all that were before him, or ſince to this very day, being no where more graphically delineated, than in this deſcription of age; whereby it plainly appears that* Solomon *was not like that forward traveller, who was well ſkilled in foreign countri and, in the mean time, knew littl thing of his own native Land. very well knew all vegetab*

cedar in Labanon, *to the hyſſop that ſpring-eth out of the wall, and thoſe creatures alſo of an higher rank, namely, all beaſts, fowls, creeping things, and fiſhes: So neither was he ignorant at home; but that wherein his greateſt wiſdom conſiſted, was, that he perfectly knew himſelf; and that* intus et in cute; *both in reſpect of the inward and the outward man: All the ſecret and myſterious powers of the mind were as naked and open before him, as the viſible parts of the body are before a vulgar anatomiſt, and his ψυχολογία in this allegory contained, doth more fully and ſatisfactorily declare and diſtinguiſh them, than whatſoever hitherto hath been endeavoured to that purpoſe, by the beſt of moraliſts; and as for the parts of the body, thoſe appoſite ſymbols which are here all along the deſcription brought to expreſs them, do abundantly declare his moſt exquiſite and exact knowledge in them all. Not only ſuch a knowledge, as was then attained in the world, or as ſhould in after-ages be attained by any; but ſuch an one, as was attainable, or as the human nature was able to comprehend; and whatſoever certain inventions in anatomy have crowned the ingenious inquirers ſucceeding time, lie couched in ſome one or expreſſion of this allegory. Among many gs, it is here clearly demonſtrated, on perfectly knew, and as plainly ive method would give leave,*

de-

deſcribed the circular motion of the blood; the beſt and moſt uſeful invention of this latter age. And as for the ſubject which is directly here intended, viz. *the deſcription of the infirmities of age, though it be compendiouſly handled by him, yet it is compleatly done in all things appertaining thereunto, both moral, natural, and divine. And indeed, what can the man ſay that comes after the king? The moſt knowing and ingenious perſons in the beſt enlightned generations, can add no more hereunto, than they can unto their own ſtature: It only remains, that ſome ſuch give us the full interpretation of what is here delivered, ſince it pleaſed the king to leave it to after ages, inveloped with a canopy of the ſame wiſdom that indited it. And if this weak eſſay may excite any ſuch, for the future lovingly to correct what is here amiſs, and to ſupply what is here deficient; it will be a moſt acceptable work; but if for the preſent, courteous reader, it may be of any uſe to thee, as a man, as a ſcholar, as a philoſopher, as a phyſician, as a chriſtian, follow the intimation that is here given thee, and I will follow thee with a good wiſh, which I am ſure ſhall be accompliſhed for thee, and for all thoſe, that honeſtly labour in God's word and work; I mean,*

I bid thee God

King SOLOMON's Portraiture of OLD AGE.

Eccleſ. xii. 1, 2, 3, 4, 5, 6.

Remember now thy Creator in the days of thy youth, while the evil days come not, nor the years draw nigh, when thou ſhalt ſay, I have no pleaſure in them.

While the ſun, or the light, or the moon, or the ſtars be not darkened, nor the clouds return after the rain.

In the day when the keepers of the houſe ſhall tremble, and the ſtrong men ſhall bow themſelves, and the grinders ceaſe becauſe they are few, and thoſe that look out of the windows be darkened.

And the doors ſhall be ſhut in the ſtreets, when the ſound of the grinding is low, and he ſhall riſe up at the voice of the bird, and all the daughters of muſick ſhall be brought low.

Alſo when they ſhall be afraid of that which is high, and fears ſhall be in the way, and the almond-tree ſhall flouriſh and the graſhopper ſhall be a burthen; and deſire ſhall fail, becauſe man goeth to his long home, and the mourners go about the ſtreets.

Or ever the ſilver cord be looſed, or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel broken at the ciſtern.

THE Oracles of God are given forth that the men of God may be made wiſe unto ſalvation, (2 *Tim.* iii. 15.) and all thoſe that through faith have themſelves exerciſed therein; ſhall, thro' grace, (the Spirit of God moving upon the waters,) obtain that moſt deſired end; but this main happineſs, is

not the only, that may be acquired by ſearching the ſcripture; for there are many natural things, the knowledge whereof may be better gained in one line of them, than in whole volumes of confuſed naturaliſts: Wherefore he that in the true fear of God ſhall apply himſelf to them, may think not only to have eternal life, but by the way alſo to obtain the true knowledge of moſt things that appertain to this. *Seek firſt the Kingdom of God, and all other things ſhall be added unto thee*, Mat. vi. 33. *Solomon* ſought after nothing but wiſdom, but ſee what a gracious anſwer he received, *I have given thee a wiſe and an underſtanding heart, I have alſo given that which thou haſt not aſked, both riches and honour, and I will lengthen thy days*, 1 Kings iii. 5—15. Thus it pleaſeth God to deal with thoſe who are ſincere, not only to give them their hearts deſire, but to ſuperadd ſomewhat they were not aware of, that may be beneficial to them in their courſe of life. Looking after the duty of man, which is compleatly ſet down in *ver.* 13. of this chapter, I find before I come there, an anatomical enumeration of the ſad ſymptoms of extreme old age, and ſuch an one as I dare be bold to ſay, is not elſewhere to be found. When the wiſdom of the omniſcient God, through his ſervant *Solomon* ſhall deſcribe it, why ſhould I ſearch any further? Enigmatical I confeſs it, and exceeding difficult; wherefore I have the more diligently applied myſelf

to the interpretation of it. And ſo much the rather, becauſe I find various ſenſes put upon the words, and ſcarce any one hath, without interruption, carried the allegory clean through the whole ſix verſes, as I judge it ought to be. And becauſe a miſtake in the parts of man, may cauſe a miſtake in the literal interpretation, I (whoſe ſtudy it hath been to be more verſed in thoſe than uſual interpreters) do take the liberty to endeavour explication, wherein, if beſide my own ſatisfaction and content, I ſhall add any thing to others knowledge, I ſhall therein have a ſecond reward.

I am not ignorant of all, nor do I deſpiſe any of thoſe ſeveral interpretations both literal and myſtical, that ſeveral learned and good men have been exerciſing themſelves in. There are that expound all this allegory, or at leaſt ſome part of it, to a ſtate of wickedneſs, to a ſtate of poverty, to a ſtate of ſpiritual deſertion, to a famine of bread, or of the Word of God, to the ſeveral diſperſions and captivities of the *Jews*, to the deſtruction of both the temples, and of *Jeruſalem*, to the obſtinacy of the *Jews*, to the unprofitableneſs of the Gentiles under their miniſtry, to the apoſtaſy of the latter times, to the end of the world, and to the day of judgment. I know God doth at ſundry times, and in divers manners ſpeak unto the world by his ſervants, *Heb.* i. 1. And knowing this firſt, that no prophecy of the ſcripture is of

any private interpretation; I know this from thence, that no private interpreter whatſoever is to bind up others to the meaſure of his own underſtanding. Now as I am againſt no other, ſo there is no other againſt me in this that I am about. All that can be ſaid concerning it, is, that it is low, and mean, and ordinary, however (confeſt by all) it is true, genuine, and proper. And this may be ſaid of it beyond all other whatſoever; that it is the baſis and foundation of all the reſt. And every one of them receive their clarity of truth, from the analogy they bear to this primary interpretation; that is, that theſe ſix verſes are a true and proper deſcription, of the natural, infirm, and decrepit age of mankind. That which the Latins call *ætas capularis*; the age of him who is ſhortly to be taken unto death, or into the coffin, or upon the bier, or into the grave; plainly the age of him, who is by courſe of nature juſt at his laſt, and muſt ere long neceſſarily yield to inevitable diſſolution. There is in that language alſo another word (which way ſoever we take its etymology) that will excellently ſignify unto us the condition here delineated. And that is *filicernium*; for whether we take it, *quaſi filiceâ herniâ laborans*; he that is troubled with hard ruptures, as very old men for the moſt part are, or *ſili herbâ uſurus*, he that will ſoon call into uſe ſuch an herb as was then accuſtomed to funeral entertainments, or

ſilentibus brevi cernendus, he that will quickly be free among the dead; or laſtly, *ſilices cernens*; he that by his age and infirmity is continually put in mind of his tomb; or rather (that which ſeems to be moſt proper) he that is bowed down with age, ſo that he cannot but behold the ground whereon he now ſtands, and under which he muſt ere long be laid. And this anſwereth exactly to the Greek word, γέρων, παρὰ τὸ εἰς γῆν ὁρᾶν.

I ſhall not take upon me preciſely to limit the bounds of this decrepit ſtate, foraſmuch as they are various, in reſpect of the diſpoſitions of mens bodies, of their courſe of lives, and alſo of the places and ages in which they live. The lives of the Patriarchs before the flood were extended to almoſt a thouſand years, *Gen.* v. 27. and yet we read not of thoſe ſad ſymptoms attending them, as attend us now at fourſcore. About the time of the flood, God abbreviates the courſe of man's life, and ſeems preciſely to ſet it at one hundred and twenty years, *Gen.* lxiii. I know very well moſt men would have this text to be underſtood as a threatening only to the preſent inhabitants of the old world, that it ſhould be ſo many years before the flood ſwept them all away: But it ſeems to me (and not to me only *) rather to intend the cutting ſhort of the life of man for the future. For it is clear by the context, that

* *Joſephus*, lib. 1. c. 7.

the flood came upon the world within an hundred years after this denunciation; which was made when *Noah* was five hundred years old, *Gen.* v. 32. And he was but ſix hundred years old when the flood of waters was upon the earth, ch. vii. 6. Now God doth ſeldom anticipate the execution of his judgments in wrath, but doth often prorogue it in mercy. It is as clear alſo, that many there were, even after the flood, whoſe lives were prolonged beyond this appointed period, but they found it very burthenſome and grievous, and miſeries with their age daily came upon them; the firſt-born of death, about that time began to devour their ſtrength, *Job* xviii. 13. and to take poſſeſſion of them in the right of him that was to ſucceed. And they might then be ſaid to die, in the ſame propriety of language, as *Adam* did in the day wherein he did eat the forbidden fruit; but the Pſalmiſt gives a more exact account of this thing, which may ſtand firm to this very day: *The days of our years are threeſcore years and ten, and if by reaſon of ſtrength they be fourſcore years, yet is their ſtrength labour and ſorrow, for it is ſoon cut off, and we flee away*, Pſal. xc. 10. But as the univerſal fabrick, that God at firſt extracted out of nothing, draws nearer to its end, ſo doth every particular ſtructure therein made, weaken and decay. *As the heaven and the earth wax old, ſo they that dwell therein ſhall die in like manner*, Iſa. li. 6. And therefore it is not

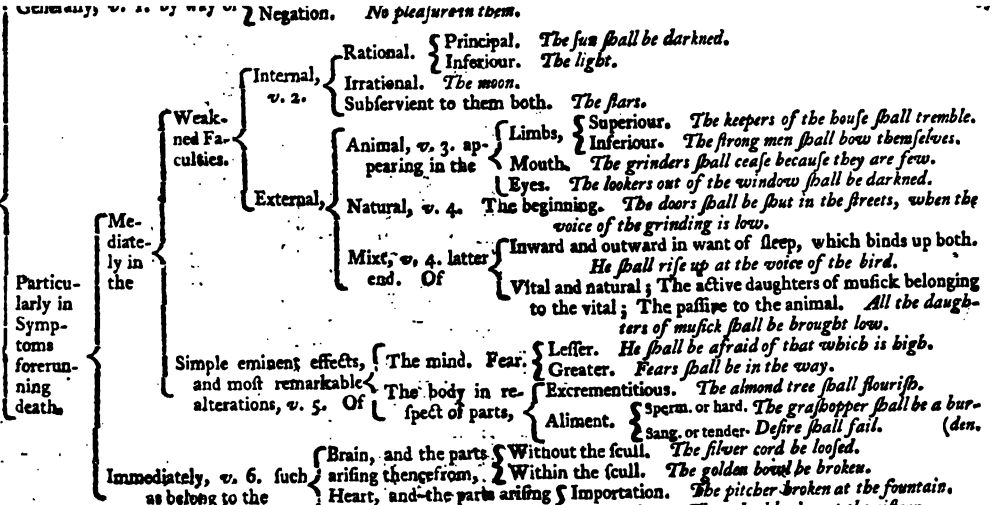
to

to be thought, that in theſe days man's age ſhould be ſo long, nor ſo many arrive at it, as in the days wherein the bow of univerſal nature abode in its greater ſtrength. Nor can we exactly put the terms of any man's old age, ſo as to ſay he is now old at this preſent moment, but was not ſo before; for it is that which creeps on by ſteps and degrees, as the ſhadow upon a dial.

Inde minutatim vires, & robur adultum
Frangit, & in partem pejorem liquitur ætas.

Some of the flowers of age blow before others ſome; ſometime on one bough, ſometime on another; here one, there one, inſenſibly; however when perfected, you have it ſtand in full bloom, as it is to be ſeen in the enſuing analyſis.

Age is here described,



Statutum eſt in cœlis. It is a ſtatute in heaven, *for all men once to die*, Heb. ix. 27. by virtue of which it is, that man muſt neceſſarily paſs through all thoſe various ſteps and paſſages, from the womb to the tomb, that are appointed unto him in that unalterable decree. As ſure as man is born, ſo ſure he muſt paſs along, and unleſs it pleaſe the Lord ſooner by a violent ſtroke to take him to himſelf, he muſt go from ſtate to ſtate, from age to age, and never ſtay, till he come to theſe evil days, and unpleaſant years mentioned in the text. There was, it is probable, within the compaſs of the creation, that which had a natural property in it to preſerve mortal, yea, ſinful man without alteration. *Now leſt he put forth his hand and take alſo of the tree of life, and eat, and live for ever; therefore the Lord God ſent him forth from the garden of Eden to till the ground from whence he was taken*, Gen. iii. 22, 23. And when the creatures ſhall be delivered from the bondage under which they now groan, this *panacea* may again be reſtored to its primitive uſe: *Then ſhall the leaves of the tree of life be for the healing of the nations*, Rev. xxii. 2. but for the preſent, this is kept from us by a flaming ſword, and therefore not to be attained unto. And I never knew any one touch but the foot of that mount, I mean, attempt any thing that is but analogous thereunto, but his work, if not himſelf, was deſtroyed thereby. And as our

caſe now is, he that made us, he can ſave us; he that made the ſun, can cauſe it to ſtand ſtill or go back at pleaſure; and he that made man, can uphold him without thoſe changes, which otherwiſe unavoidably attend him. And in the days of wonder (when ſhoes and garments kept equal duration with mens fleſh *Deut.* xxix. 5) ſo he did his ſervant *Moſes*, concerning whom it is ſaid, when he was one hundred and twenty years old, his eye was not dim, nor his natural force abated, *Deut.* xxxiv. 7. But this is his own prerogative, when he pleaſeth; in his ordinary providence, as he hath ſet certain bounds that a man cannot paſs, ſo he hath ſet certain other that he muſt. *Man that is born of a woman cometh forth as a flower, he fleeth as a ſhadow*, Job xiv. 2, 5. he fleeth from infancy to childhood, from thence to youth, and from thence to ſtrength, from thence to full age, from thence to declenſion, from thence to the ſtate we are upon. And thus ſome interpret the ſecond verſe, *While the ſun is not darkened*, (*i. e.*) the prime of youth be not ſpent, the light of that ſun, is the full age; the moon, is declining age; and the ſtars, are the beginning of old age; but this I judge not ſo primarily and properly the meaning of the place, as you will hear in this enſuing explication.

VERSE

VERSE 1.

Remember now thy Creator in the days of thy youth, while the evil days come not, nor the years draw nigh, when thou ſhalt ſay, I have no pleaſure in them.

THIS chapter begins with an exhortation to the moſt neceſſary duty of man, which is preſſed upon him by a double inconvenience that will certainly come upon him, and for the future render him uncapable to perform the ſame. The laſt and the greateſt is that of death, deſcribed in the ſeventh verſe. And this is the night wherein no man can work: The other is that of age, deſcribed in theſe ſix former verſes. And this is the evening or latter part of the day, wherein it is very ill working, and nothing can be done, in compariſon of what might have been done before; let the neglect therefore of this duty for ever be annexed to a μὴ γένοιτο, God forbid that any one ſhould defer the remembrance of his Creator until he be not able to remember at all, or put off the work of the higheſt concern, until he be altogether unfit to perform aright any of the meaneſt: But becauſe it is my preſent deſign only to meddle with the allegory wherein is the deſcription of Age, I ſhall not detain you in this moſt important entrance, but immediately fall upon my work. In this verſe we have only a general deſcription of

that

that infirm condition, which is more particularly treated of in the following verſes.

Age though it naturally creeps upon all men, whatſoever their conſtitutions and compoſitions are, yet it is itſelf a diſeaſe. *Senectus ipſa morbus.* And it doth certainly induce ſuch a *cachexia*, or ill habit, that it renders us inſerviceable to our ends, and doth as it were ſet open the gates, that all that troop of enemies may enter in, which follow here in their order.

Here are two expreſſions that intimate unto us the unavoidable approach of theſe decrepit years *(i. e.)* come and draw nigh; of which gemination, ſignifying the ſame thing, I may well ſay, as *Joſeph* did upon the doubling of *Pharaoh*'s dream, *Gen.* xli. 32; It is becauſe the thing is eſtabliſhed by God, and God will ſhortly bring it to paſs. Whoſoever we are, whatſoever we are doing, whitherſoever we are going, they are ſtill coming on. Be we male or female, be we Jew or Gentile, be we bond or free, be we princes or ſubjects, be we what can be imagined, they come, they come: While I write, while thou readeſt, while we walk, while we ſleep; while we abide at home, while we go abroad; while we eat, or drink, or ſport; while we retire our ſelves, we pray or faſt; while we neglect our ſelves, while we defend all we can againſt them, they draw nigh, they draw nigh. And that man who wrote a book, *

* *Gal. lib. de Marasmo.* 2.

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de non ſeneſcendo, lived to his own diſgrace, to ſee his own errour confuted in himſelf.

Here are two words alſo to expreſs the contention of this ſtate ſo long as it ſhall be, (i.e.) *days* and *years*; both theſe words ſignify alſo the ſame thing in the general, *viz.* how long this ſtate ſhall remain: And thus *Jacob* uſeth them both, in giving an account unto *Pharaoh* how long his life had continued: *The days of the years of my pilgrimage are one hundred and thirty years, few and evil have the days of the years of my life been, and have not attained unto the days of the years of the life of my fathers, in the days of their pilgrimage*, Gen. xlvii. 9. But in particular, they intimate unto us a diverſity of their continuation to divers perſons. Some men poſt over this bad way, and remain but a very little while in it; others paſs over it more ſlowly, and continue therein much longer. Some have but a few days of labour and ſorrow, others have them prolonged out to years. As the Lord only knows what perſon in the world (for there are but few in theſe laſt ages) ſhall be brought to this ſtate; ſo he only knows how long they ſhall remain in it. Whether this time ſhall be more or leſs, whether days or years ſhall determine it, is to us uncertain, but this is moſt certain concerning them both, that if they be at all, ſo long as they are, they ſhall be evil, they ſhall be unpleaſant.

Evil days.

I here take the word *evil* in a good ſenſe, that is, not for the evil of ſin, but the evil of miſery, the fruit of ſin. I know there be them that would have this word, if not the whole allegory, underſtood of ſuch days and years as wicked men, by their giving themſelves up to follow their own hearts luſt with greedineſs, do voluntarily bring upon themſelves; but it ſeems to me to be otherwiſe, and that chiefly from theſe two reaſons: 1. Becauſe I find nothing in the allegory that is not competible to every particular perſon that lives to the time of this ſtate, both to the good and bad, both to the righteous and the wicked; weakneſſes, infirmities, diſeaſes both of body and mind attend them all: *Iſaac*, *Jacob*, *Eli*, *David*, as well as thoſe who led never ſo contrary lives, muſt bear the burthen of their age, if they live to the time. It is moſt certainly true, a courſe of wickedneſs doth wonderfully haſten both old age, and death itſelf. *The wicked man ſhall not live out half his days*, *Pſal.* lv. 23; nor ſhall he keep off decrepitneſs half the time; *his honour ſhall be given away*, *and his years unto the cruel*, *Prov.* v. 9. And beſide the haſtning of theſe evils, he doth infinitely augment them both for number and quality, he ſhall have a thouſand fold more, and a thouſand fold greater: Every ſore ſhall be a plague, and every ach ſhall be an hell unto him; but this

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is not the condition in this text deſcribed, but the declenſion of man's life as a man; and that from this ſecond reaſon drawn from the context. When I look immediately before the deſcription, I find youth mentioned, *Remember thy Creator in the days of thy youth*; when I look immediately after it, I find death deſcribed, *The duſt ſhall return to the earth as it was, and the ſpirit ſhall return to God that gave it.* Now as youth and death are appointed for all living, without any diſcrimination of him that ſweareth, or him that feareth an oath, as terms *à quo*, and *ad quem*, of their pilgrimage; ſo this ſtate alſo, as an intermediate ſtage, is as certainly appointed to them all, unleſs it pleaſe God before that conſtituted time, to give them a deliverance by immature diſſolution. It is ſaid of old age,

Expectata diu votiſque optata ſecundis,
Objicit innumeris corpus lacerabile morbis.
Auſonius.

Though this ſtate be never ſo much deſired of men, yet when it comes, it brings along with it abundance of all manner of evils, as the following diſcourſe will ſufficiently make appear, and therefore may well be called, an evil ſtate.

But here I muſt needs meet with this moſt obvious objection: Is not old age a great bleſſing from God, *Prov.* xxii. 29, and are not gray hairs an honour, *Gen.* xv. 15, do not you call that

that evil, which God calls good? *Gen.* xxv. 8. How often in ſcripture is it ſaid, *A good old age*, *Judg.* viii. 32. 1 *Chron.* xxix. 28. and counted as a privilege? I muſt needs therefore here diſtinguiſh of old age; and conſider it in a threefold ſtate. Firſt, crude, green, and while it is yet in the beginning, while men are able to do buſineſs, and go about their employments, and this is but one little remove from manhood, and doth immediately border upon it. The ſecond is, full, mature, or ripe age; when men begin to leave off their employments, and betake themſelves to retiredneſs; when God hath no more work for them, and they have no more ſtrength for him; or laſtly, extream ſickly, decrepit, overgrown old age; in which it may be truly ſaid, *Old age is periſhed*, *Job.* xxx. 2. *when their breath is corrupt*, *when their days are extinct*, *and the grave is ready for them*, *Job* xvii. 1. And this only is the ſtate the wiſe man here ſo rhetorically deſcribes. And that age which is ſo often called good, I take to be the ſecond before mentioned ſtate; and ſo much the rather, becauſe in moſt places where it is ſaid, *they died in a good old age*, it is alſo added, *and full of days*; by which I underſtand, not a fulneſs of poſſibility, that they lived ſo long, as from the principles of their compoſition, they could not have lived any longer; but a fulneſs, as I may ſo ſay, of ſatiety; they had enough of living, they lived as long as living was good, they lived to

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a full, ripe, and mature age; ſuch an one as would force them to be of the mind with him in the fable, to refuſe immortality in this preſent life; and earneſtly to deſire it in a better *. There is an excellent illuſtration of this in the ſpeech of *Eliphaz*, wherein he ſets down the ſpecial providences of God towards them that fear him, and are bettered by correction; *Thou ſhalt come to thy grave in a full age, like a ſhock of corn in its ſeaſon*, Job v. 26. Now if a ſhock of corn ſtand very long in the field, it ſheds, and is ſpoiled, and the ſeaſon of it is as well loſt, as if it had been taken in too green. *Jacob*, moſt certain it is, died in this good old age as well as others; yet he himſelf ſaith unto the king, a little before he died, that the days of his years were few, and he had not attained the days of the years of his fathers in their pilgrimage, *Gen.* xlvii. 9.

Had St. *Paul* departed when he had fought the good fight, finiſhed his courſe, and kept the faith, 2 *Tim.* iv. 6, 7, and was ready to be offered; he had ſurely died in a good old age, although his pulſe had not then beaten above threeſcore years. Now, moſt certain it is, that the arriving at this ſtate is one of the greateſt outward bleſſings that man is capable of in this life. Nor dare I ſay otherwiſe, if it ſhould pleaſe the Lord to protract the life of man to the extreameſt point it is capable of; if he ſhould

* *Tithonus.*

ſhould withhold his hand from puſhing down the houſe which he hath made, and let it fall to decay upon its own principles, his forbearance would be the greater, its fall would be the leſſer; however in the mean time, it would ſtand moſt ruinate, deformed, uſeleſs, and incumbred with infinite inconveniencies, that it was never liable to before;

Heu quàm continuis, & quantis, longa ſenectus,
Plena malis.

But this is not all, it is not only an evil age, but there is no pleaſure in it; as there is no condition that frail mortality is capable of ſo good, that hath not a participation of evil; ſo there is ſcarce any condition ſo evil, that is not attempered with ſome good; but this ſeems to be excluded from ſuch a mercy as this. It is ſaid of a good companion, *ſhe will do a man good, and no harm all the days of her life*; *Prov.* xxxi. 12. But contrariwiſe, it may be inverted concerning this bad and moroſe companion, ſhe will do a man evil, and no good, ſo long as ſhe continueth with him.

I have no pleaſure in them.

I take *pleaſure* here alſo in the beſt ſenſe, not for any ſinful content whatſoever, not for the luſts of the fleſh, the luſts of the eyes, or the pride

pride of life, 1 *John* ii. 16. but for thoſe lawful pleaſures and repaſts both of body and mind, that the nature of man, while able, might comfortably have ſolaced herſelf in. The mind of man buſying itſelf, and taking contentment in the ſpeculation of natural cauſes, the body of man in all its outward ſenſes, in all its internal appetites, ſporting and refreſhing itſelf in all proper and peculiar objects; but no ſuch refreſhments as theſe in old age; which is a principle ſo well known to be true, and ſo much rooted in the judgment of men; that the news to the contrary (though brought immediately from God himſelf) did, at the firſt, ſtartle, and put a very hard ſtreſs too, upon the faith both of the mother and father of the faithful. Pleaſure in old age, (and to ſuch perſons who were as good as dead, and with whom it had ceaſed to be after the manner of men and women) was ſuch an incredible thing, as both *Sarah* and *Abraham* laughed at the news, *Gen.* xvii. 15, 16, 17. which laughter as it might proceed partly from a confident affiance upon the word of God, and a contentation thereupon, (as is uſually ſaid) ſo partly without all doubt, from that reluctancy they found in themſelves, and thoſe heart-riſings, and internal arguings againſt the reception of thoſe joyful tidings, *Gen.* xviii. 11. the ſpirit indeed was ready, but the fleſh was weak. And this will ſufficiently appear in the text, from the grounds of their laughing, their

their reaſoning thereupon, and from the Lord's anſwer to them both; and what pains he takes, and what arguments he uſeth further to perſuade them, that it ſhould be ſo indeed as he had promiſed.

There is a learned commentator * ſaith upon the word חֵפֶץ here tranſlated pleaſure: *Hebræa vox non modo voluptatem, ſed etiam negotium quodlibet opuſve ſignificat*; the original word, ſaith he, ſignifieth work and buſineſs, as well as pleaſure, *Eccl.* iii. 1. And ſo indeed it doth, and may very well do in this place. When decrepit age is come, a man's work is at an end, he is able to do no more. *Solomon* ſaith, *there is no work, nor device, nor knowledge, nor wiſdom in the grave whither thou art going*, Eccl. ix. 10. Now old men are very near it; our *Engliſh* proverb is, They have one foot in the grave; they have no more work to do, their courſe is finiſhed, and their time of departure is at hand.

VERSE 2.

While the ſun, or the light, or the moon, or the ſtars be not darkened, nor the clouds return after the rain.

HAving before in general ſhewed this ſtate to be miſerable, he now comes to tell us wherein theſe miſeries particularly conſiſt. I muſt here be neceſſitated to go an untrodden path,

* *Lorinus.*

path, and poſſibly an unacceptable one to ſome. As for all thoſe interpretations that are beſide the allegory, you know I have already waved them, and therefore ſhall not ſo much as mention them in this verſe, nor in the whole enſuing diſcourſe. As for thoſe that ſay, the ſun, and the light, the moon, and the ſtars, ſignify the ſeveral ages that man muſt paſs through, as was before hinted; they make this allegory, not ſo much a deſcription of old age, as of the way to it, and therefore are not to be admitted: foraſmuch as this is the deſcription of compleat and perfected decrepit age, as you have already heard. There are that take theſe luminaries abſolutely literally, for the ſeveral heavenly bodies as they ſtand fixed in their orbs, and differing from one another in glory. But unto man in this ſtate they are not really darkened, for as they communicate of their light and influence equally both to the good and bad, to the juſt and unjuſt; ſo alſo, to the young and old, to the ſtrong man, and to the feeble, by reaſon of his age. And then it muſt of neceſſity be underſtood, *per hypallagen*, only that they appear ſo to them, by reaſon of their inability to receive their light, and by reaſon of the weakneſs and dimneſs of their outward ſenſe. And ſo this opinion will in effect coincide with the following, which is indeed moſt conſiderable. And that is, that theſe lights are metaphorically here expreſſed, and do principally allude to the lights of the

body. And this interpretation doth principally and primarily ariſe and take its authority from the *Chaldee* paraphraſe; which is by interpretation as followeth: *Antequam mutetur ſplendor gloriæ faciei tuæ qui aſſimilatur ſoli, & lumen oculorum tuorum antequam obcæcetur, & decor maxillarum tuarum antequam obtenebreſcetur, & pupillæ oculorum tuorum qui aſſimilantur ſtellis antequam extinguentur.* And after this, men of very great names have walked in the ſame ſteps. But as moſt other interpreters ſeem to ſtrain the metaphor too far, and carry it beyond the ſignification of the natural parts of man; ſo theſe ſeem to me to draw it too ſtraight, while they keep it within the compaſs of the external parts of the body. And ſo much the rather, becauſe by this expoſition is intimated only the change of the countenance towards deformity, which is ſufficiently elſewhere expreſſed, as you will hear anon; and the dimneſs of the ſight, which is far more plainly expreſſed in the latter end of the third verſe, *nemine contradicente.* And that in this brief deſcription the wiſe man ſhould tautologize, is not to be ſuppoſed. On the other hand, it is not to be imagined, that any infirmities appertaining to this ſtate, eſpecially thoſe of the mind, which are the greateſt of all, ſhould be neglected herein.

Omni membrorum damno major dementia.

Now as *Dalilah* ſaid to *Samſon*, *Thou haſt mocked me theſe three times, and haſt not told me wherein*

in thy great ſtrength lieth, Judges xvi. 17. ſo might it be ſaid of *Solomon*, if he ſhould take upon him to deſcribe any thing, and do it but in part, and ſo deceitfully, that he ſhould neglect the principal part, wherein the great ſtrength lieth; but I am otherwiſe perſuaded; that he hath here told us all his heart, and that there is no remarkable infirmity, either of body or mind, that belongs to age, which is not contained in this allegory. Now foraſmuch as all the ſymptoms in the four following verſes belong properly to the parts of the body, as you ſhall hear, I take this verſe to be a deſcription of the infirmities of the internal powers of the ſoul; and why moſt divines do on ſet purpoſe avoid this interpretation, which is ſo plain and obvious in this place, I cannot tell, unleſs it be becauſe they are ſo much taken up with the contemplation of the ſoul of man, that they forget it hath any thing at all to do with the body. There is a vaſt difference between the ſoul of man as it is in its united ſtate, and as it is in its ſtate of ſeparation. It is not ſent from heaven into the body as an aſſiſtant only, or like ſome tutelar angel, with commiſſion and full power to guard, protect, and counſel that perſon, towards which it is for a ſeaſon the deputed miniſter. For if ſo only, then it might recount and tell us, how curiouſly it wrought for us in the lower parts of the earth, and what wonderful *ideas* it had before it, to have done further

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for us in that darkſom region, had we been capable to receive them; yea, then it might accompany us beyond our pilgrimage, remaining in the body even after diſſolution, and taking care for our burials.

But the caſe is far otherwiſe, it is ſent to inform the matter, and together with it to make up one *compoſitum*, the man being not the one, nor the other; but moſt properly that which doth ariſe from the perfect union of them both; and whatſoever is predicable of the whole, is predicable of the parts united; whatſoever may be ſaid of the man, may be ſaid of the body and ſoul united; and as they are throughly joined together, ſo they do intimately participate one with another, they are cleanſed, they are defiled together; they are bound, they are looſed together; they are well, they are ill together: If *the fleſh upon him have pain, the ſoul within him ſhall mourn*, Job xiv. 22. they grow up together, they ſtand together, they decay together. How often are perſons in ſcripture ſaid to grow both in mind and body, and eminently concerning our Lord, which is *inſtar omnium*; he encreaſed in wiſdom, in ſtature, in favour both with God and man, *Luke* ii. 52. The ſoul is as weak as the body, both at firſt and laſt; *ſenes bis pueri*, is a known maxim, and daily experienced; and by all men underſtood of the feeble underſtanding. *Anima* comes into the world, *tanquam raſa tabula*; and it goes

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out *tanquam deraſa*. The ſoul appears at the firſt as an unwritten table-book, and when it diſappears at the laſt, it becomes blank as it was before. *Job*'s pious and patient exclamation, *Naked came I out of my mother's womb, and naked muſt I return*, Job i. 21. may be well extended to a ſeparation, not only from the goods of the body, and eſtate, but from thoſe alſo of the mind; which hath nothing at beſt, but the beginning and ground-work whereof, at the leaſt, is picked up from the communication of the outward ſenſes, and when thoſe publick intelligencers fail, ſo alſo doth this their Lord and maſter. And therefore by the ſun, light, moon, and ſtars being darkened, we do poſitively aſſert to be meant, the moſt inward powers of the mind, in this ſtate do, together with the outward members of the body, weaken and decay.

But it may be here ſaid, is the whole inward man liable to this decay? Is there not ſomething in man, while in this ſtate, altogether independent of the body? and perfectly free from the frailties of age? Doth not the ſcripture in many places ſeem to ſpeak of renewed ſtrength in this ſtate of weakneſs, and plainly prove, *that while the outward man decays, the inward man may be renewed day by day?* 2 Cor. iv. 16. For the right underſtanding of this, and ſeveral ſuch places as theſe are, we muſt of neceſſity diſtinguiſh of the inward man. There is the

inward man of the head, (as I beg favour to ſay, ſince the ſoul of man there chiefly doth exerciſe its principal faculties) and (ſince the other contradiſtinct term is ſo appoſitely given in ſcripture, *viz*) the inward man of the heart; plainly, there is the inward man of nature, and the inward man of grace; there is the inward man of the firſt-birth, and the inward man of the ſecond-birth, or of regeneration. Now I ſpeak here concerning the former of theſe, that hath its decays as age comes on, not at all concerning the latter; and as I have before excluded a ſtate of ſin from the text, ſo I do here wholly exclude a ſtate of grace. The partial falling from divine grace, is not ſo much as aimed at in this place of ſcripture, as the total not in any. Moſt certainly true it is, that the work of grace ſtands upon its own foundation, not at all depending upon the principles of humanity, either for its creation, or renovation; foraſmuch as the Holy Spirit of God, who is as much at liberty as the wind, is both the begetter, and the ſtrengthener. And as a man may be born when he is old, *John* iii. 4. contrary to the reaſon of *Nicodemus*, ſo alſo may he be freſh and flouriſhing in his old age; *Thoſe that be planted in the houſe of the Lord ſhall flouriſh in the courts of our God, they ſhall bring forth fruit in old age, they ſhall be fat and flouriſhing.* *David* prays, *O Lord when I am old and gray-headed forſake me not*, Pſal. ix. 13, 14. ſpiritual deſer-

tions and ſpiritual manifeſtations, are immediately handed out from God, and do not at all depend upon the mutability of the nature of man, nor accompany him in the ſeveral changes.

They are only the ſeveral lights of nature, which, as age comes on, fall to decay without remedy. Now, as God, in making of the greater world, ſaid, *Let there be lights in the firmament of heaven to divide the day from the night; and he made two great lights, the greater light to rule the day, and the leſſer light to rule the night*, Gen. i. 14, 16. he made the ſtars alſo: So alſo hath he done in the little world of man; he hath made two great lights, (as they are ſet down in this verſe) the one, *viz.* the greater, to rule the day of man; which is that clear ſhining part of man, whereby he is differed from all other created beings whatſoever, and diſcerns himſelf ſo to be; and this I underſtand by the ſun, and the light: And the other, *viz.* the leſſer light, to rule the night of man, which is that darker diſcerning part of man, that hath very little, or no light in itſelf, neither doth diſtinguiſh him from irrational creatures; and this I underſtand by the Moon; he made the ſtars alſo, as it followeth yet more plain.

The S U N.

By the ſun, I underſtand here the moſt ſuperior power of the rational part of the ſoul of

man, that primary light of the underſtanding, that doth at once both receive the ſpecies as they are communicated from the imagination, and alſo render them intelligible to the mind; that pure innate light of the mind, without which no man that comes into the world, can either apprehend what is from without tranſmitted to him, or actuate any of thoſe phantaſmes which are already impreſſed. This we may ſee illuſtrated by the light of the body, which is the eye: For in the eye there could be no perception of any outward object, unleſs there were an inward implanted light in the proper organ, which doth both diſpoſe it to receive the viſible ſpecies, and render them proportionable to the organ, giving them thereby actual repreſentation. Now that which this implanted light of the eye doth in viſion; the ſame doth this Sun of the ſoul in the underſtanding. This is that which in ſcripture is ſo often called the ſpirit, or the ſpirit of the mind, *Prov.* xx. 27. And ſometime in a diſtinction from the ſoul, as where it is ſaid, *I pray God your whole ſpirit, ſoul and body may be preſerved blameleſs to the coming of our Lord Jeſus*, *Eph.* iv. 23. 1 *Theſ.* v. 23. Now, becauſe this is a difficult point, and hath gravelled moſt undertakers, I will give one eſſay more, and that from ſcripture-light, which hitherto may not have been taken notice of, to the preſent purpoſe; it is ſaid, *The word of God is quick and*

and powerful, and ſharper than any two-edged-ſword, piercing even to the dividing aſunder of ſoul and ſpirit, and of the joints and the marrow, *Heb.* iv. 2. Among many other truths, this place doth afford us this for one; that it is very difficult to divide or diſtinguiſh between the ſoul and the ſpirit, becauſe there is an intimate communion and conjunction between them; ſuch an one as in ſome meaſure bears proportion with that, which is between the joints and the marrow. Now becauſe this latter of the parts of the body (though hard in itſelf) yet is far eaſier to be underſtood, than that former of the parts of the mind; let us well conſider this, and poſſibly it may give us ſome light to the other. The joints are the turning places of the body, upon which all the actions of the limbs are performed, and therefore they are articulated ſeveral ways, according as the poſition, alteration, motion of the adjacent parts do require; theſe are the moſt viſible acting parts of the body; the marrow (by which we are to underſtand not *medulla oſſium*, the marrow of the bones; but the *medulla ſpinalis*, the marrow of the back; for this hath much more intimate communion and conjunction with the joints than the other hath) is the apprehending and inſtructing part of the body, that which carries the impreſſions of external objects to the inward ſenſe, and reconveys the mandates there-

of to the members of the body, to be put in execution upon the joints. *Ejus munus eſt ſpirituum copias & motuum obeundorum inſtinctus extrà deferre, atque ſenſibilium impreſſiones intus convehere* *; this is the ſecret inward influencing part of the body. In like manner, the ſoul is the moſt apparent active part of the mind of man, whereupon all its operations, both ſpeculative and practical, are turned and performed; of which there is a particular account given in the explication of the following word: but the ſpirit is a more myſterious, and hidden power, that doth moſt ſecretly, and undiſcernably, both gather up thoſe intimations that come from without; and alſo give forth an effectual influence upon the whole inward man, to put all its well regulated commands in execution upon the ſoul: Both which offices of this Sun (*viz.* both of reception from the outward ſenſes, and actuation of the inward) is very clearly expreſſed in that ſpeech of *Zophar* unto *Job*; *I have heard the check of my reproach, and the ſpirit of my underſtanding cauſeth me to anſwer.* As if he had ſaid, I have received through mine ears the ſound of my reproach, and an anſwerable impreſſion is made upon my ſpirit; and the ſame ſpirit alſo hath drawn forth my underſtanding into act, towards the formation and production of an anſwer. And this is the conſtant manner of the opera-

* D. *Willis*, c. 29.

operation of man's underſtanding; this is alſo that part of the mind, which *Ariſtotle*, and all his followers, meant by their *Intellectus agens*; this is that candle of the Lord, or light within them, which the unſound teachers of old, and thoſe more innocent ones of late*, would have to be a ſufficient guide to everlaſting life: But if it be ſo, it will be good hearkning to it, while it doth remain in its ſtrength; for this Sun alſo, as years come on, doth certainly decline, and great muſt that declenſion be. *For if the light of the body, which is the eye, be darkneſs, great muſt that darkneſs be*, Luke xi. 34. much more ſurely if the light of the ſoul, which is the Sun, be darkned, how exceeding great muſt that darkneſs needs be! Indeed, there muſt be a defect in the whole underſtanding, when this *primum mobile* can ſcarce act any longer; and therefore it is, that the apoſtle ſpeaks concerning the ſpiritual underſtanding, alluding therein unto the natural; *Having their underſtanding darkned, through the ignorance that is in them, becauſe of the blindneſs of their heart*, Eph. iv. 18. When there is ignorance to receive, and blindneſs to guide, in this principal faculty, all thoſe which are thereby acted, muſt certainly be weakned, as the next word doth clearly import.

The LIGHT.

By the Light therefore, I underſtand all thoſe more inferior powers of the rational part of the

* *Pelagius.*

ſoul of man, that are any way ſet on work by vertue of the principal Agent; which is an efflux from the before mentioned ſun; the poſſible underſtanding alſo, in all its operations participates in like manner of this ſtate of weakneſs. Now the operations of mans underſtanding are various, both *ad extra*, in reſpect of the objects; and *ad intra*, in reſpect of the will.

The firſt, are ſpeculative, the laſt, are practical. The firſt (whereby the underſtanding is converſant about things as they have in their own nature a diſtinct being) are principally three. The firſt is perception, or the ſimple apprehenſion of an object, from the immediate impreſſion thereof by the miniſtry of the before-mentioned ſun. The ſecond is compoſition, or complexion, whereby we try, and weigh the particulars that we have before received, and compound, and divide, join, and ſeparate one thing from another, as may be moſt convenient for the improvement of them, to their appointed ends. The third is, reaſon, or diſcourſe, whereby we gather up to ourſelves ſomewhat farther than we underſtood before, and make our ſelves maſters of a new and better knowledge, which the things themſelves received, as in themſelves, could not adminiſter.

The laſt (whereby the underſtanding is converſant about things as they are good or evil) may alſo be reduced to three. The firſt is conſcience, which is a reflection of the underſtanding

ing upon a man's actions, together with a ſentencing them to be good or evil, according to thoſe unqueſtionable principles which are already received. This is the ſearch which the candle of the Lord makes in the lower part of the belly, *Prov.* xx. 27. The ſecond is direction, or judgment, whereby the underſtanding doth propoſe an end to be deſired and proſecuted, the execution of which, that is, the reſting ſatisfied in, and deſiring of that end, is that which moraliſts aſcribe to the will, and term βούλησις. The third is conſultation, or βούλευσις, the reaſoning about the means to attain that end, together with an inquiſition and collation of ſeveral means among themſelves, and an election of thoſe which are moſt proper, the embracing of which, and putting them in execution, is that which they call προαίρεσις.

Now theſe, and all the operations of the rational ſoul, however they may be diſtinguiſhed, have in this ſtate an anſwerable imbecillity. Be a man never ſo apprehenſive, be he never ſo ingenious, be he never ſo rational, be he never ſo conſcientious, be he never ſo judicious, be he never ſo prudent; when his Sun begins to ſet, and his Light to decline, he muſt become weak as another man, nay, weak as a child. And this the author of our deſcription here, though he ſo well knew it, and foreſaw it, yet was not able to prevent it in himſelf, but found his own words ſadly verified in his own condi-

tion. For *it came to paſs when* Solomon *was old, that his wives turned away his heart after other Gods*, 1 Kings xi. 4. he that for underſtanding ſurpaſſed all men, ſince God gave unto him wiſdom more than to any man, before him, or ſince, to this very day; and for light of conſcience alſo, ſince the Lord had appeared to him twice, *v.* 5. 7. yet, when he was old, he fell to ſuch irrational, ſottiſh, ſenſeleſs abominations, and that only by the ſeduction of women, as nothing but the frailty of age could poſſibly have given way unto.

Now as the ſoul is, by reaſon of age, weakned in the directing part, which uſually is called, the underſtanding; ſo alſo in the executing part, which uſually is called, the will. Old men when they do apprehend an end, and the means to attain it, they heſitate about proſecuting the mandates of the mind, and ſtand for the moſt part timorouſly and child-like at, *ſhall I, ſhall I.* I find one commentator upon the place ſay, *Non fruitur libero arbitrio**. There is not a ready embracing, nor a free acting towards the attainment of what is by the underſtanding firſt dictated. Farther yet, old men are very eaſily drawn off, and led aſide from their own intentions, every weak ſuggeſtion is too ſtrong for them, and takes them captive at pleaſure; and as our Saviour ſaid to *Peter*, though in another ſenſe, ſo may it be ſaid to every one who ſhall live to the time, *When thou waſt young, thou*

* *Lorinus.*

thou girdedſt thyſelf, and walkedſt whither thou wouldeſt, but when thou ſhalt be old, another ſhall gird thee, and carry thee whither thou wouldieſt not, Joh. xxi. 18. A man ſhall not then be maſter of his own actions, but be very liable to the ſeductions of whomſoever ſhall beſet him.

And thus by theſe two words, the Sun, and the Light, you perceive is meant, the whole rational ſoul, with all its powers and operations, as it may be found exerciſing itſelf both inwardly and outwardly. And tho' here be two words more ſignificantly ſet down, for the fuller and clearer manifeſtation of what is here intended, yet it might have been expreſſed (though not ſo plainly) by one word only. And therefore it is, that the *Syriac* tranſlation, and ſome followers of it, have only the Sun expreſſed: *Antequam Sol obtenebreſcetur:* for the Sun may ſignify, not only that light which is contained within its own body, but all thoſe emanations that illuminate whatſoever is thereby enlightned. And the woman's candle in the goſpel, by which ſhe found her groat, might ſignify, not only the light in the candle itſelf, (which anſwereth here to the ſun,) but all the light in every part of the room alſo, (which anſwereth here to the light.) And thus we find the greater light, which rules the day of man, to be darkned; the leſſer, which rules the night, is that which followeth.

The MOON.

By the Moon we muſt underſtand that other part of the ſoul of man, which is not in itſelf rational, μετέχει μέντοι πῆ λόγου, *Aliquo tamen modo rationis particeps.* I confeſs, reaſon may in man have ſome influence upon it, but in its own nature it is altogether devoid of it; it is that part of the ſoul which is uſually called ſenſitive, and is common to all other animals as well as unto man; and in him is but the leſſer light, and ruleth but the darker part only, and therefore may be moſt aptly expreſſed by the moon. It is converſant principally about thoſe ſpecies which are communicated to it, from the outward ſenſes; the operations about which are either ſimple, or compound: The ſimple operations are firſt to receive them as they are communicated from without, and then to retain them for ſo long time as it is exerciſing itſelf about them. Secondly, to dijudicate them as they are in themſelves, and to diſcern them as they differ from all other whatſoever. The compound operations are excellently deſcribed by a modern author of our own*; who ſaith, that the liberty of the imagination is threefold, either compoſition, or new mixing of objects; tranſlation, or new placing of them; creation, or new making them. Now all theſe, or whatſoever elſe may be

* Dr. *Reynolds* upon the faculties, *p.* 24.

be comprehended within the compaſs of the pure ſenſitive part of the ſoul, are but the operations of one faculty, and therefore by one word, are moſt fitly here expreſſed. And though the philoſophers have uſually diſtinguiſhed them into more, as into the common ſenſe, the fancy, both eſtimative, and cogitative; yet really and truly they are but one: for as one ſuperior faculty in the ſuperior part of the ſoul, which is the underſtanding, could both receive, compound, and collect, as you heard before; what hindereth but the ſame may be done in the ſame manner in the inferior? And we are not to multiply faculties without neceſſity. Beſide, the ground of their variety is not to be admitted. For they ſuppoſed the operations about their objects to be divers, attributing perception and diſcerning to the common ſenſe only, dividing and compounding to the fancy.

Now the fancy doth as well perceive and diſcern, nay, better too, than the common ſenſe doth; and the common ſenſe may be ſaid to compound, and divide, as the fancy doth: Therefore ſome, more quick ſighted of late, perceiving this ground not ſufficient, that they might be ſure to uphold *Ariſtotle's* diviſion of the inward ſenſes, have found out another way, and ſay, that the common ſenſe is converſant about a preſent object only, the fancy about that which is abſent; but this ſeems as weak as the former, and that according to the Peripatetic

Doctrine; foraſmuch as the fancy is converſant about an object only while preſent with it; indeed it can detain it a while, until it have done its work about it; ſo can the common ſenſe alſo; and it can receive it again after it is paſſed away, and operate upon it anew, but for this it muſt be beholden to the memory, and can do nothing upon an object by its own ſtrength, but while it hath it preſent with it. I argue this, only to ſhew that they are but one faculty, and therefore by this one word, *viz.* the Moon, they are both repreſented: which (as the more ſuperior powers of the ſoul, and all the members of the body,) hath in this ſtate of weakneſs its anſwerable declenſion. I confeſs, with *Ariſtotle**, if an old man had a young man's eye, he would ſee as well as a young man; but I deny that which I ſuppoſe he meant by it, that is, that he would perceive and diſcern as well as a young man, unleſs he had a young man's internal faculty alſo. It is one thing, to ſee, it is another thing, to know that a man ſees, and to diſtinguiſh what colour, and what figure he ſees. As age brings a weakneſs upon the outward ſenſes, ſo that they cannot ſee, ſo alſo upon the inward, that they cannot diſcern could they ſee; and this is moſt ſignificantly expreſſed by old *Barzillai*, when King *David* would have had him, to feed him at his own table; *I am this day*, ſaith he, *fourſcore years old, and can I diſcern between good and evil?*

* *Ariſt.* de anima, *lib.* 3.

evil? Can thy ſervant taſte what I eat, or what I drink? Can I hear any more the voice of ſinging men, and ſinging women? 2 *Sam.* xix. 35. He firſt expreſſeth his inward decay, I cannot diſcern; and then his outward, I cannot taſte, nor hear. It is proper to the outward ſenſe, to taſte and hear; but it appertains to the inward, to know whether the objects both of taſting and hearing, and of all the other outward ſenſes, be good or evil. And thus old *Iſaac* was impoſed upon, not only in reſpect of the dulneſs of his outward ſenſes, (all five of which are mentioned in that one chapter, where his younger ſon is ſaid to come with ſubtilty, and take away the bleſſing, *Gen.* xxvii.) but chiefly in reſpect of the weakneſs of his inward ſenſe, wherein he was moſt miſtaken; for *he diſcerned him not*, ver. 22. And thus you have the leſſer light, that rules the night of man darkened, as well as the greater, that rules the day; that which is ſubſervient to them both, is that which followeth.

The STARS.

By the Stars, I underſtand, πάντα μνημονίυτα, All thoſe ſpecies whatſoever, either rational or imaginary, that (like the ſtars in their orb) ſtand fixedly treaſured up in the memory. Now the ſtars do not properly pertain either to day or night, but are diſtinct luminaries from the the rulers of the day and night, and ſubſervient

to

to them both; and do communicate both day and night, to all inferior bodies, of their influences, and alſo of their light; for although the greater light of the ſun in the day time doth cauſe them to us to diſappear, yet they are ſtill ſhining, as is ſufficiently demonſtrated in the eclipſe of the ſun, when that greater light is darkened; or in the narrow and long contraction of the viſible ſpecies, either by art, in glaſſes, or naturally, if a man ſtand at the bottom of a deep and narrow well, then will the ſtars give their light apparently at noon day. In like manner, all the ſpecies and repreſentations of things that are paſt, whether they are the product of the day or night, that is, as you have heard, either of the underſtanding, or of the fancy, are treaſured up in one ſingle faculty of the memory. And that the ſtars have belonged only to the night, hath not been a more common miſtake among the vulgar; than that the memory belongeth only to the imagination, hath been among the learned. And therefore they have much troubled themſelves, and confounded others, in finding out another receptacle of the intelligible ſpecies, which they call reminiſcency or recordation; as though one and the ſame faculty were not able to retain the ſpecies that are of a diverſe nature. The ground of this miſtake hath principally riſen from this; that they have given more unto the memory, than properly doth belong unto it, in that they have

have aſſigned unto it three operations, *viz.* reception, retention, and rendition; that this faculty doth not only keep, what is committed to it, (which indeed it doth moſt faithfully,) but that it doth alſo take into cuſtody, that which it keeps; and deliver it up again, when called for; hereby making the memory, both *condus*, and *promus*, of the things therein contained, and giving unto it ſuch a power, as many noblemen to their butlers, whereby they become more maſters of what is contained in their cellars than they that made them. Now if we will divide aright, and give unto the memory that which is its; and unto the underſtanding and imagination that which is theirs; we ſhall ſoon underſtand how ſpecies of a diverſe nature, whether ſenſitive or intelligible; more or leſs ſpiritualized; and diverſly circumſtantiated, in reſpect of time, or place, or whatſoever elſe may alter them; may eaſily be contained within the the ſame faculty without multiplication. Say we, that the underſtanding and imagination, as they make their ſeveral ſpecies, ſo alſo they take them, and they lay them up in the memory as they are by them altered or circumſtantiated; and as they have occaſion to make uſe of them, they look for them, and find them treaſured up in the ſame nature, order, and manner, that they put them in; and from thence they themſelves take them out again: The memory in the mean time doin; no-

nothing at all, towards either the receiving them, or delivering them up, but only exerciſing its paſſive power in the keeping of them; which keeping alſo is nothing elſe, but the duration of that impreſſion (without any act, or endeavour, or knowledge, on the part of the memory) which the more ſuperior faculties make; the memory being moſt truly that which the philoſophers have uſually ſaid of the will, *cæca potentia*; keeping thoſe things committed to its charge, with no more knowledge, or action, than the wax doth the impreſſion, or the paper the writing thereon made, or the coffer the treaſure therein repoſited: Which being ſo, it may eaſily contain things of a divers nature, and as much diverſified in reſpect of circumſtances, as the ſuperior faculties can poſſibly make them. The ſame coffer may eaſily preſerve the gold of one man, and the ſilver of another, till they each of them come, and take their own goods again. And thus we underſtand, that the power of this faculty in man is only paſſive, and its only work is to retain thoſe things that are committed to its charge; which work it performs with great truſt, ſo long as man abides in ſtrength, but as he declines in age, ſo alſo doth this faculty in its uſe; not only unfaithfully and confuſedly retaining the images that are made upon it, but oftentimes letting them ſlip.

—*Nec*

——————— *Nec*
Nomina ſervorum, nec vultum agnoſcit amici
Cum quo præteritâ cœnavit nocte, nec illos,
Quos genuit, quos eduxit.

And as it is ſaid, concerning the greater world, when it ſhall draw towards its end, *The ſun ſhall be darkened, and the moon ſhall not give her light, and the ſtars ſhall fall from heaven, and all the powers of the heavens ſhall be ſhaken*, Mat. xxiv. 29. ſo alſo may it as well be ſaid in that world's epitomy, Man: As he ſhall draw towards his end, his underſtanding ſhall be darkened, his imagination ſhall be weakened, and withhold its light, and thoſe things that were fixed in the memory ſhall fall from thence, and all the powers of the mind ſhall be broken; and this is that which to me ſeems the true meaning of this ſecond verſe.

And hence we may gather how ſad man's condition muſt needs be in this laſt Age of his, in reſpect of his mind. The diſeaſes and ſymptoms which do neceſſarily ariſe from the darkening of theſe luminaries are theſe which follow. *Mentis imbecillitas, hebetudo, ſtupiditas, fatuitas*; μώρωσις, (i. e.) *ſtultitia, tarditas ingenii, judicii defectus*; ἄνοια, (i. e.) *amentia, melancholia, deſipientia, memoria imminuta, abolita*. And theſe proceed from the darkning of the ſeveral and particular lights; there are others alſo

alſo incident to age that ſhake all the powers of the heavens at once, and they are *Vertigo*, *Carus*, and *Apoplexia*. And theſe are the miſerable attendants of this feeble ſtate, which is ſo much the more to be lamented, by how much the leſs it is to be helped. Sad are the infirmities before mentioned in any age, and moſt difficultly do they receive their cure; but in this they admit of none at all. Some means may be by phyſicians uſed for the proroguing of of them, and keeping them off for a time; and for the mitigation of their violent aſſaults, but for the total preventing, or the abſolute curing, let no man living hope for.

οὐδ' ἀσκληπιάδαις τοῦτο ἴδωκε Θεός.

And this the enſuing proverb doth ſufficiently confirm.

Nor the clouds return after the rain.

Having before ſhewed, that the precedent words do not ſignify the infirmities of the eyes, I need ſay no more, to ſhew that theſe do not intimate the rheums or diſtillations from the eyes or head, falling upon any of the ſubjected parts. It will be enough plainly to declare, that theſe words ſignify, that the miſeries and infirmities of old age, do unceſſantly and unavoidably ſucceed one upon another, as the ſhowers in *April*. And they are placed here in the midſt between the deſcriptions of the infirmities

mities of the mind which preceded, and thoſe of the body which immediately follow; as having reference to them both. Whereby we muſt underſtand, that all the infirmities that appertain to this ſtate, whether they be thoſe of the mind, or thoſe of the body, do immediately follow one upon another, and one paroxyſm upon another, and that without remedy. *Nubes poſt imbrem*, is a known Adage, ſignifying, the ſpeedy ſucceſſion of miſeries upon miſeries; as on the contrary is ſignified joy and happineſs, after affliction, by that proverb, *Poſt nubila Phœbus*. The infirmities in this allegory mentioned, if they ſhall at any time fall upon a man in any other age, may poſſibly be eaſed: And if ſo, there is good hopes that they may be kept from redintegration, or ever returning more; but in this age no ſuch hopes; if their violence may poſſibly be for a time remitted, yet they will as certainly return again, as the clouds after a rain in a rainy ſeaſon. Now when the weather is (as we uſually ſay) ſet in to rain, it is wonderful to ſee, how quick the clouds will riſe and ride one after another, and every one, the ſmalleſt of them, pour down rain upon the earth beyond all expectation. And if there ſhall be any ſmall interval between ſhower and ſhower, and the ſun at any time begin to peep out between the clouds, it is ſoon darkened again; and the clouds return thicker and blacker, and the ſhowers

greater

greater and longer, than they were before. This is a moſt lively repreſentation of the infirmities of the decrepit age of man; wherein as deep calls unto deep, *Pſal.* xlii. 7. ſo one grief, pain, weakneſs upon another, until all the waves and billows thereof are gone over him.

Velut unda ſupervenit undam.

And if nature ſhall be able at any time to gather up herſelf, and unite all her force, to give a glimmering light through the darkneſs that oppreſſeth her; yet it it cannot long continue, but a greater darkneſs will preſently ſucceed, as it is in the light of a candle, which is almoſt conſumed in its ſocket; ſometime ſome light appears, then preſently it is darkened again, and ſome ſuch interchanges may be for a ſeaſon made, but it will grow darker and darker, until at length it be quite extinguiſhed. And that wonderful redintegration of the ſight and teeth of the old miniſter in *Yorkſhire* (like all thoſe lightenings before death) was but the laſt and utmoſt endeavour of periſhing nature, *Et quaſi mox emorituræ lucernæ ſupremus fulgor.* If old *Jacob* ſhall be able to ſtrengthen himſelf, and ſit up in his bed, at the news of his ſon's approach to viſit him, *Gen.* xlviii. 2. yet his weakneſs muſt return again, and he muſt lie down in his bed again, and again, until at length he lie down in the grave.

If

If art ſhall be able to contribute any thing to the preſent allay of any of the miſeries of this ſtate, yet they will ſurely and unavoidably return again; if ſeeing delightful objects, or beloved friends, if hearing of news, or pleaſant diſcourſe, or melodious muſick; if the pratling of grandchildren may give any divertiſement or refreſhment to the mind: if a more ſuitable air, convenient bathings, unctions, or frictions; if an eaſier bed, if ſavoury meat, *Gen.* xxvii. 4. or delightful wine, or any thing elſe, outward, or inward, that art can find out, may give any eaſe or refreſhment to the body, yet the comfort of them will be but for a ſmall ſeaſon, and the former troubles will certainly return again.

If a young virgin, lying in *David*'s boſom, ſhall cheriſh him a while, and adminiſter that heat and comfort to him that cloaths could not do, 1 *Kings* i. 3. yet it muſt be but for a time, and *David* muſt grow cold, and chill, and comfortleſs again, and that more and more, until he be taken into the houſe of all living. And this is the great miſery that attends all the miſeries of this miſerable ſtate, that they are altogether incurable; and though ſome refreſhment may ſometime ſeem to interpoſe for a ſeaſon; yet they will all moſt certainly return again, as the clouds after the rain.

VERSE

VERSE 3.

In the day when the keepers of the houſe ſhall tremble, and the ſtrong men ſhall bow themſelves, and the grinders ſhall ceaſe, becauſe they are few; and thoſe that look out of the windows be darkened.

HAving ſufficiently before ſhewed us, what the infirmities of the *mind* are in this condition, he comes now to treat of thoſe of the *body*; wherein the body is moſt aptly compared to a building, or an houſe going daily to decay, and that cannot be repaired. And this ſimilitude of the body, whereby it is compared to an houſe, is moſt ſcriptural. *David* ſaith, *Thy ſtatutes have been my ſongs in the houſe of my pilgrimage*, Pſal. cxix. 54. And *Paul* ſaith, *If our earthly houſe of this tabernacle were diſſolved, we have a building of God, an houſe not made with hands, eternal in the heavens*, 1 Cor. v. 1.

Now the decays of this houſe in old age are many; four of which, *viz.* thoſe in reſpect of the keepers of the houſe, the ſtrong men, the grinders, and the lookers out of the windows, are mentioned in this verſe, in the explication of which I ſhall be the briefer; becauſe what I underſtand by them all, in this verſe, hath been for the ſubſtance of them, formerly treated of by others. And here the current of inter-

interpreters hath run much-what the ſame way, and left behind them leſs obſcurity in theſe words, which are indeed in themſelves the plaineſt that are contained in the whole allegory;

The keepers of the houſe ſhall tremble.

I could willingly conſent to thoſe, that by this expreſſion would have the ribs to be meant, were the predicate as applicable as the ſubject; the *thorax* doth moſt ſafely keep, and excellently well defend the principal parts therein contained. And *Job* ſpeaks of the fence of the bones, as of the ſinews: *Thou haſt fenced me with bones and with ſinews*, Job x. 11. but how they ſhall be ſaid to tremble, is not to be made appear; foraſmuch as experience doth ſufficiently confirm, that they ſtand as fixed in old as in young, and more fixed too. And indeed their articulation, both to the *ſternon*, and alſo (and eſpecially) to the *vertebræ* of the back, is ſuch, that they admit of very little and obſcure motion, but not at all of this trembling. And therefore we muſt find out ſome other parts of the body which are the conſtituted keepers of the houſe; and they certainly can be no other than *the hands*. Now the anatomical hand contains not only the *carpus*, *metacarpus* & *phalanges digitorum*, but the whole ſuperior *artus*; all thoſe higher parts of the limbs that are divided from the trunk of the body, and

therefore it is well divided in *brachium*, *cubitum*, & *extremam manum*. And theſe are they which moſt properly are ſtiled the keepers or defenders of the houſe; and that which makes it the more unqueſtionable is, becauſe they anſwer ſo directly to the ſtrong men, as it follows in the next words. And theſe hands and arms do ſeveral ways keep and defend the houſe. And there is nothing more frequent in ſcripture than the expreſſing of defence by the power of the hands and arms; when *Jacob* bleſſed his ſon *Joſeph*, he ſpake how he was defended from them that beſet him, and ſaith, *His bow abode in ſtrength, the arms of his hands were made ſtrong by the hands of the mighty God of Jacob*, *Gen.* xlix. 24. And as if there were no other way of expreſſing preſervation, defence, and deliverance, theſe members are almoſt always mentioned, and moſt frequently attributed to God himſelf; *They got not the land into poſſeſſion by their own ſword, neither did their own arm ſave them; but thy right-hand, and thine arm, becauſe thou hadſt a favour for them*, Pſal. xliv. 3. And if there be any impotency in the hands and arms, a man is no longer able to defend himſelf; *Job* hath a moſt remarkable expreſſion to confirm this truth; if ever he uſed his defence and help to oppreſs the fatherleſs, he wiſheth that now he might be left altogether helpleſs, and that his defenders might be taken from him, or rendered wholly unſerviceable to

their

their ends; *If I have lift up my hand againſt the fatherleſs when I ſaw my help in the gate, then let my arm fall from my ſhoulder-blade, and my arm be broken from the bone*, Job xxxi. 21, 22. Beſide this, they may be ſaid to keep the houſe, in that they provide for it, getting maintenance for the whole body, for by working they get bread, 2 *Theſ.* iii. 10. *Paul* ſaith, *Theſe hands have miniſtred to my neceſſities*, Acts xx. 34. And as they do defend the houſe, and provide for it; ſo alſo they do offend whomſoever would hurt it; they do not only get, but protect, and alſo keep off the adverſary. And all this was done at once by the power of the hands of the Jews in their great neceſſity, when they were rebuilding the temple, their hands were throughly filled, and employed in a double defence; *For they which builded on the wall, and they that bare burdens, with thoſe that laded, every one, with one of his hands wrought in the work, and with the other hand held a weapon*, Neh. iv. 27. Now ſuch, through the wiſdom of God, is the dexterity of the hand, that it can employ a weapon to be a better defence to a man, than whatſoever is naturally alloted to any creature beſide. And that audacious carper at the works of God (who complained that other creatures had naturally a defence given, and man only left weaponleſs) was ſufficiently ſilenced, when it was told him; man had reaſon and hands,

which together, can make a better defenſive or offenſive weapon for him, than all the horns, and hoofs, the tuſks, and talons, or whatſoever nature hath more largely lent to other creatures, can do for them. And if we throughly conſider the fabrick of theſe parts, according unto what anatomy doth give ſufficient light unto, we ſhall yet farther be convinced of the truth of this matter. If we conſider on the part of the bones, firſt the *ſcapula*, and take notice that it is ſeated in the ſtrong part of the back, with freedom of motion in its place, in which it is contained by the *clavicle*, and with great advantage of moving the arm which way ſoever it pleaſeth; that it is formed with its baſis, angles, ribs, proceſſes, cavities, for the better ſeat of the muſcles, and command of them to their appointed ſervices; that it is articulated to the *humerus*, *per arthrodiam*, wherein the cavity is improportionate to the head of the *humerus*, that the ſhoulder may thereby with greater facility and liberty admit of all manner of motion, which it could not poſſibly have done, had this articulation been any firmer and cloſer in itſelf. Now that this joint may be kept from luxation, either from itſelf, or from any thing that might fall upon it, to which it was very liable by reaſon of what was before ſaid; it is ſufficiently defended by a very thick, and nervous ligament; and by the broad tendons of four great

great muſcles; which do ſo ſtrictly compaſs about the joint, that by its own motion, tho' never ſo violent, it cannot be put out; and alſo by the clavicle or kennel bone, which is ſo directly laid croſs over it, that it defends it from all external violence whatſoever. Again, if we conſider the *humerus*, its head, its neck, its pullies, its cavities, its extuberances; if we conſider the *cubitus*, and the *radius*, and their divers articulation; the one being *per ginglymum*, which gives flection and extenſion with ſtrength; the other *per arthrodiam*, which gives pronation and ſupination with eaſe. Laſtly, if we conſider the bones of the extreme hand; and therein the eight bones of the *carpus*, which are joined to the *cubitus*, and to the bones of the *metacarpus per arthrodiam*, among themſelves *per harmoniam*, if we conſider the four bones of the *metacarpus*, and their articulation to the fingers *per enarthroſin*, the fifteen bones of the fingers, and their articulation among themſelves, (for the firmer holding any thing in the hand) *per ginglymum*. Now I cannot paſs the thumb in the general name of the fingers, without a particular and ſpecial taking notice of it; foraſmuch as that above all the reſt both in its uſe, and alſo in its repute, may be ſaid to contribute chiefly to the keeping of the houſe; for it is equivalent to all the fingers, and therefore in *Latin* is called, *pollex*, *à pollendo*, being as it were an antagoniſt graſper to the whole

hand, and doth as much towards the firm holding and dextrous uſing of a weapon as all the hand: And therefore it is that idle perſons, or effeminate men, or whoſoever are unfit for ſervice in war, are called *polletrunci*; as who ſhould ſay, men that have not the uſe of their thumbs. And it was a cuſtom among the nations, for the conquerors to cut off the thumbs of the conquered, thereby rendering them diſgraced, and utterly unable for future employments either at ſea or land. And ſcriptural ſtory alſo ſeems to confirm this in *Adonibezek*, who ſaid, *Threeſcore and ten kings, having their thumbs and their great toes cut off, gathered their meat under my table; as I have done, ſo God hath requited me*, Judg. i. 7. Thus far on the part of the bones. Again, if we conſider on the part of the muſcles; how they are variouſly ſhaped and formed according to their ſeveral uſes, how they are perforated according to neceſſity, how they are ſeated to the beſt advantage, how they are to one another friends or antagoniſts, how they are derived from one part, and inſerted into another, how much ſtrength and vigour they have, how by their hormetick power and contraction into their own bodies, they can readily perform whatſoever motion the organ is capable of; they can ſtir the limb inward, outward; forward, backward; upward, downward; they can perform adduction, abduction; flexion, extenſion; pronation, ſupinati o

pination, the tonick motion, circumgiration; and all theſe with ſo great expedition and agility, that they are much ſooner done than ſaid, yea, as ſoon done as thought on; the actions of the muſcles keeping pace, nay, many times out-ſtripping the volubility of the mind: If we yet further conſider them in their *tendons*, and the variety of them, how they are either ſolid, plain, round, broad, long, ſhort, one, many; or of whatſoever form may render them moſt expeditious in their motions; how they are ſtrengthened by ſeveral ligaments, eſpecially that annulary ligament in the wriſt.

I ſay, if we conſider theſe wonderful things, wherein man differs from all other creatures, and many others, which good ſkill in the anatomy of theſe parts would eaſily furniſh a man with, all which would be too large here to inſert; it would enforce us to ſay, that theſe of all the parts of man do moſt properly defend him, and may juſtly be ſtiled, the keepers of the houſe.

Now, that theſe may be ſaid to tremble, needs no words to make appear, foraſmuch as the experience of every old man doth ſufficiently confirm it. Which word doth comprehend within itſelf all the weakneſſes, infirmities, inabilities of theſe parts in this condition: Whether they be outward, as ſtiffneſs, contraction, rugoſity; or inward, as aches, pains, numbneſs, palſies, cramps, tremblings;

yet notwithſtanding it hath, in a more eſpecial manner, relation to that grand ſymptom, that doth moſt certainly attend this condition; which is called, *tremor artuum*, the continual and unavoidable trembling of the hands and arms. Now, foraſmuch as the laſt age of man is eminently above all others he paſſeth, the cold and the dry; it muſt needs incline him, and at laſt moſt certainly caſt him into this diſtemper.

For theſe two qualities, and, for aught I underſtand, theſe alone, are the natural fathers of this trembling child. If we remember how going abroad in a bitter cold morning, how drinking a great deal of cold water, or ſwimming in the water; if we know how the uſe of poppies, henbane, opium, the cold fit of an ague, and other cold things, will eaſily ſet us a ſhaking; if we conſider that long faſtings, great evacuations, eſpecially venereal, which do moſt dry the nerves, violent heat in fevers, fluxing by the uſe of quickſilver, immoderate ſweatings in hot houſes, or elſehow, do cauſe the ſame diſtemper; we ſhall be induced chiefly to attribute this terrible ſymptom, to theſe two deadly enemies of a well tempered conſtitution, coldneſs and drineſs; which are ſo contrary to the inſtruments of voluntary motion, whoſe life and vigour conſiſts in radical heat and moiſture; that they take off their ſtrength, and render them unable

able to perform their duties, making them ſo weak, that even the weight of the member they are to move, is now their equal antagoniſt; for they going about to move the member as they uſually had done, are reſiſted with equal force by the weight of that member, which cauſeth as it were a continual combat between the ſtrength of the mover, and the weight of the moved, ſo that the limb is always drawn one way by that, and another way by this, which cauſeth a perpetual trembling of the keepers of the houſe; which is reckoned here as the firſt, and indeed is one of the moſt remarkable ſymptoms upon the body of man in this decrepit ſtate.

The ſtrong men ſhall bow themſelves.

Having before treated of the infirmities of the ſuperior limbs, he comes now to thoſe of the inferior; the keepers of the houſe being the hands, the ſtrong men can be no other than the feet; now as the hand was divided before, ſo alſo is the anatomical foot, containing not only *tarſum*, *metatarſum*, and *phalanges digitorum*, but alſo *femur*, *tibiam*, and *extremum pedem*; and as before I ſhewed, the beginning of the hand was to be accounted from the *ſcapula*, ſo here I muſt alſo tell you, that the beginning of the foot is from the *os ilium*. And thoſe muſcles which are inſerted into the thigh, and have their uſe for the motion there-

of; notwiehſtanding their origination may be either from the back, (inwardly as the chief flector the *pſoas*, or outwardly as the firſt extendor, *gloutæus major*) or from the *os ilium* (as moſt others movers of the thigh have) ought all to be accounted into the number of the ſtrong men. And if we well conſider the true nature of progreſſive motion, and firm ſtation on the ground, we ſhall ſoon conclude, that the inſtruments of them both (which are none other than thoſe we are treating of) are the beſt demonſtrators of human ſtrength, and may more aptly than any other parts of the body be called the ſtrong men. And this we may alſo have confirmed in the holy writings of God; the ſtrength of the legs, as the inſtruments of motion, ſeem to be expreſſed by the prophet, when he ſaith, *He delighteth not in the ſtrength of the horſe, he taketh not pleaſure in the legs of a man*, Pſal. cxlvii. 10. their ſtrength, as they are the inſtruments of firm ſtation, is excellently expreſſed by the ſpouſe, when ſhe ſaith concerning her beloved; *his legs are as pillars of marble*, Cant. v. 15. And as they are the inſtruments of both, you have them notified in the ſtory of *Peter*'s curing the lame man, *Acts* iii. wherein (as if *the uſe of legs* (both for ſtanding and walking) *and ſtrength* were convertible terms, ſignifying the ſame thing;) we have his cure once expreſſed by theſe words; *immediately his feet and his ancle bones received ſtrength, and he leaping up, ſtood*

and

and walked, ver. 7, 8. and preſently after only by the word *ſtrength*; *his name, through faith in his name, hath made this man ſtrong*, ver. 16. I ſhall give but once inſtance more, and that moſt remarkable, having in it the great wiſdom of God to expreſs this thing; and that is the touch of the hollow of *Jacob*'s thigh, *Gen.* xxxi. 25. when God would intimate to *Jacob*, his own weakneſs, and his inability to wreſtle, and to prevail with God and man by his own ſtrength; he ſmites him in the thigh. Thus he dealt alſo with *Paul*, 2 *Cor.* xii. 3. who leſt he ſhould be puffed up with his viſions and revelations of the Lord, (having been taken up to the third heaven, and ſo much ſpiritualized, that it was hard to ſay, whether he was in the body or out of the body) he had ſuch a direct contrary infirmity laid upon him, that it might ſufficiently take off all other men from admiring him, and himſelf from being lifted up beyond what he ought to be; *Leſt any man ſhould think of me above what he ſeeth me to be, and that he heareth of me, and leſt I ſhould be exalted above meaſure through the abundance of revelation, there was given to me a thorn in the fleſh, the meſſenger of ſatan to buffet me, leſt I ſhould be exalted above meaſure*, ver. 6, 7. all occaſion of glorying in his ſpirituality was abundantly taken away, when he had a continual memento of his carnal weakneſs, a thorn in the fleſh. And thus alſo may *Jacob*, and all *Jacob*'s children, for ever,

ever, be taken off from boaſting in their own ſtrength from his prevailing with God and man; ſince ever after he bare that moſt certain ſymptom of human weakneſs, halting on his thigh, for when this part is once rendered unſerviceable, there can be no more ſtrength to contend.

And the perfect conqueſt that *Sampſon* got over the *Philiſtines*, whereby they were unable any more to reſiſt, is expreſſed, *He ſmote them hip and thigh*, Judg. xv. 8. Beſide, the counſel which is given to *Joſhuah* is worth our obſerving to this purpoſe, whereby he is taught to make the horſes of the many kings he ſhould ſuddenly ſubdue, for evermore unſerviceable, and yet to ſave their lives; *Thou ſhalt hough their horſes, and burn their chariots with fire*, Joſh. xi. 6. Whereby we may underſtand, that if the back ſinew of an horſe's hind leg (wherein the great ſtrength of theſe parts lieth) be cut in ſunder, he is made altogether as unfit for ſervice in the war, as the chariots that are burnt. I might further yet confirm this truth by an anatomical enarration of the ſeveral compounding parts of theſe limbs; but foraſmuch as I did that before, in the treating of the ſuperior *artus*, I may the better omit it here; becauſe there is a very great ſimilitude between theſe parts and thoſe ſpoken of before; and what was there ſaid of them, as unto the parts, and alſo unto the

diſ-

diſeaſes, may for the moſt part be tranſlated hither, and ſaid of theſe. And it is the principal argument that induceth me to believe that we are in the right in our interpretation of theſe two ſymptoms, becauſe of the likeneſs of the parts we are ſpeaking of, and alſo of the terms to expreſs them. It is well known to all thoſe that take delight to ſearch into the wonders of God in the frame of man's body, that the ſhoulders, arms, and hands; and the thighs, legs, and feet are very much alike; ſo alſo are theſe two expreſſions, *the keepers of the houſe*, and *the ſtrong men*. The diſeaſes alſo of theſe parts in age are much the ſame, and ſo alſo are the words that here expreſs them. For although we tranſlate the latter word, *Shall bow themſelves*; yet the vulgar *Latin* tranſlate it, *nutabunt*, *ſhall nod or ſhake*; and doubtleſs, the original words are of very near ſignification, ſo that the *Syriac* tranſlation, and the *Chaldee* paraphraſe upon theſe words differ very little or nothing at all, but tranſlate them both to trembling or ſhaking. However give me leave to take notice briefly of one or two things wherein theſe members differ from thoſe before ſpoken of, and wherein their ſtrength and uſe is principallly made appear.

The bone of the thigh, is of all other bones of the body the biggeſt and the longeſt; and is called in *Latin*, *femur*, *à ferendo*, becauſe as a ſtrong man it doth ſuſtain and bear the whole

whole weight of the body. It hath in the head of it three eminent proceſſes. The firſt is the great and the round head, which is inſerted into the large cavity of the hip, *per enarthroſin*, which admits of all manner of motion, and there is detained by a double ligament; the firſt is common, broad, thick, membranous, that doth ſtrongly compaſs the joint about, and the other is a round, and cartilaginous ligament, which proceedeth out of the very head of the *femur*, and being inſerted ſtrictly into the cavity of the *os iſchii*, doth firmly hold this bone in its place, that it cannot be moved. The other two proceſſes are called, the *trochanters*, the leſſer, and the greater; whereby the tendons of the muſcles moving the thigh are more conveniently ſeated, that they may the better wheel about that limb to whatſoever poſition they pleaſe. It hath moreover at the upper end a more ſlender part, which is called the neck of the *femur*, which is ſo framed for the more convenient lodging of the muſcles, and paſſing of the veſſels, (*viz.* the arteries, veins, nerves,) for the uſe and benefit of the ſubjected parts. Its form alſo is moſt remarkable, in that it is on the external or forepart, gibbous, or bunching outward; on the internal or hind part, ſimous, or bending inwards, which frame doth wonderfully conduce to the conveniency of fitting, to the firmneſs of ſtanding, and to the dexterity of walking.

Laſtly,

Laſtly, It is articulated to the *Tibia*, *per laxum ginglymum*, which adds very much to the expedition in motion, and is of ſuch a frame, that on the back part it leaves a moſt convenient hollow place, which we call *Poples*, the ham, for the paſſing down of the veſſels; and on the fore part it is wonderfully defended by the *Patella*, or knee-pan, as by a ſhield, the form, and name of which, this bone doth continually bear. And it is ſo much the more to be obſerved, in that no ſuch bone is in the ſuperior *Artus*, nor in the whole body beſides; for it is articulated to no bone at all, but is kept in its place by a double ligament, the one inward, which is that round, bloody ligament, which firmly annexeth it to the thigh; the other outward, which is the conjunction of the tendons of the four muſcles which extend the *tibia*, which together make a broad ligament that doth encompaſs the whole knee, and ſtrongly bind it in its place; wherein it exceedingly conduceth to the defending of the joint, over which it is placed. For that articulation being looſe in itſelf (as was before ſaid) would be very apt to luxation in ſudden and great flexures of the knee, or in going down ſteep places; were it not by this ſhield bone abundantly ſtrengthned, and ſufficiently defended from all thoſe inconveniences.

Moreover, the conjunction of the *fibula*, being otherwiſe than that of the *radius*, which anſwereth it in the arm; is well worth our obſervation

vation to our preſent purpoſe; the *radius* of the arm is articulated (as you have heard before) *per arthrodiam* to the *humerus*, which renders it more expeditious as to ſeveral motions, and therefore more properly a keeper of the houſe; but the *fibula* is not at all articulated to the *femur*, but is affixed to the external part of the *tibia*, and doth ſtand as it were an underprop to that, whereby they may jointly with greater ſtrength ſupport the whole body, and be the more juſtly called, *the ſtrong men*. There is yet one obſervation more from the anatomy of theſe parts, that doth with great delight and content demonſtrate, that thoſe are the keepers of the houſe, and theſe the ſtrong men, and that is from the variety of their flexures; the hand in all its ſeveral joints, is bended one and the ſame way; the ſhoulder is bended inward, or forward, and extended outward, or backward; ſo alſo is the arm, the hand, the fingers, and this is for the better apprehending and comprehending any thing, and uſing any defence; and therefore they are the keepers of the houſe: The foot is bended in its ſeveral joints, ſeveral ways; one, one way; and another, another; the thigh is bended forward, the leg is bended backward; and again, the foot is bended forward, and the toes are bended backward; and this is for the greater conveniency of going, and for the firmer ſtanding, and therefore theſe are the ſtrong men.

We

We might yet further and principally confirm this thing, by the ſeveral forms and uſes of the muſcles of theſe parts; for it is not ſo much great bones, nor great veins, nor a great deal of blood or fat, that makes a man ſtrong; but great, and ſtrong, and eminent muſcles, they are the true indicators of ſtrength. Now theſe parts of the body have bigger, ſtronger, and more raiſed muſcles than any beſide; and by how much the higher the tendons of the muſcles are raiſed, with ſo much the greater ſtrength muſt they needs perform their offices, and ſo much the more declare the ſtrength of a man; and therefore we have an ordinary obſervation, and a probable one, to judge of a man's ſtrength, or weakneſs, by the elevation or depreſſion of the calves of his legs. I might alſo add many more obſervations of the like kind; but I deſiſt, foraſmuch as a good anatomiſt can furniſh himſelf with enough; and he that is none at all, can ſcarce underſtand theſe, when he is told.

And becauſe the great ſtrength of a man lieth in theſe parts, therefore in his infirm and weak conſtition theſe parts muſt be more eminently feeble.

A child before ſtrength comes on, and an old man after his ſtrength is departed, muſt have but little uſe of theſe members. As it was ſaid of *Aſa*, *In the time of his age, he was diſeaſed in his feet*, 1 Kings, xv. 23; ſo may it be ſaid of all who ſhall live to that time. Now, foraſmuch as what was ſaid before of the infirmities of the

hands,

hands, may alſo be ſaid of thoſe of the feet. I ſhall chiefly refer you thither: However, becauſe the word is here ſomewhat differently tranſlated in our language, and we have no reaſon to complain, foraſmuch as it doth primarily ſo ſignify; ſo that ſome have tranſlated it, *pervertentur*, others, *curvabuntur*, and the *Septuagint*, διαστραφῶσιν. I judge there is one grand ſymptom of age that in this place, and upon theſe parts, is principally aimed at; and that is the perverſion, crookedneſs, abbreviation, and alteration of the poſition, of the ſeveral joints of theſe parts; and their inability of being reduced to a firm, ſtraight, and tonick poſture, wherein the ſtrength of a man doth wholly conſiſt. And it is wonderful well worth our obſervation, that if a man at his beſt and ſtrongeſt eſtate ſhould be kept in that bending poſture, which age neceſſarily binds every man unto; he, in that condition, were ſcarce able to go, or ſtand, without the help of a ſtaff; and the reaſon of it is plain, becauſe the centre or gravity is not equally poiſed upon the *baſis* of the feet; but hangeth as a weight behind, and therefore had need of another *fulciment*, upon which it might the more firmly reſt. And therefore it is ſaid of old men, *membra levant baculis*; when theſe members are perverted in their joints, and the tone of the muſcles is ſo much relaxed, that they are unable to bring them to ſtraightneſs again, there is great need of the ſupport of a ſtaff;

ſtaff; for without it, there is an utter inability of going ſteadily, and ſtanding ſtrongly, which is the principal ſymptom intimated by the ſtrong mens bowing themſelves.

The grinders ceaſe because they are few.

That there may in man's body be other grinding than maſtication, or chewing the meat in the mouth; and other grinders, than the jaws and teeth, *the enſuing diſcourſe* (and that there can be no other in this place intended, *this preſent diſcourſe*) I hope, will make appear. Grinding all men know to be performed by two hard bodies, the one immoveable, upon which the grinding is made; the other moveable, which by ſtrong compreſſion againſt the former, and by its motion, makes the grinding; ſo that to it, there is neceſſary both theſe, *viz.* the firm ſtander, and the ſtrong mover; the upper, and the nether milſtone; as we have them often mentioned in Scripture, *Deut.* xxiv. 6; now anſwerable unto theſe in the mill, there are for that grinding which is performed in the mouth, two jaw bones, which are called the upper and nether *mandible*. The upper mandible, is compounded of eleven ſeveral bones, which among themſelves, and to thoſe adjacent are joined either *per ſuturam*, or *harmoniam*, which admit of no motion at all, and therefore this ſtands firmly in its place, and is that immoveable milſtone upon which the grinding is made; the nether

nether mandible is one ſingle, hard, and ſtro bone, whoſe articulation is very looſe, for t greater liberty of motion; and it hath two three pair of muſcles, eſpecially the *tempor* which ſtrongly bring it upward, for the clo acting againſt the other mandible, and one wo derful pair of muſcles, called, the *maſſete* and are derived from a double original, and l yond all others of the body whatſoever, h their ſeveral fibres ſo croſſing and interwo one with another, that they are ſeverally ſ ſerted into this lower mandible, and ſo are a to move it upward; to the right, to the le forward, backward, and conſequently rou about, and ſo performing that action which call maſtication or chewing, and therefore t is that other moveable milſtone which ma the grinding.

Now out of both theſe, equally proceed the ſeaſon of them a certain number of ſm bones which we call the teeth; which how ever they may be numbered among the bon yet they have one or two eſpecial proper which are competible to no other bones of body, (at leaſt in that meaſure,) whereby t are principally adapted for the grinding.

The firſt is, they are naked, they have covering or ſkin upon them, no not ſo mu as that common membrane, called, the *P oſteon*, which doth encompaſs all the bone the body beſide; and that is becauſe they mi

the better attinge one another's bodies, and in their attrition one againſt another they might feel no pain; but I muſt needs here take notice that the words of *Job* ſeem to be againſt me, where he ſaith, *I have eſcaped with the ſkin of my teeth*, Job xix. 20; this is eaſily anſwered, if we conſider the two parts of the teeth, *viz.* the *baſis*, and the *radix*; *that*, is the part which eminently appears white above the gums; *this*, is that part which is within the gums, and ſtands fixed in the mandibles: Now by *Job*'s ſkin or covering of his teeth, it is apparent he meant the gums which cover the roots of the teeth; his ſores, and his boyls were ſo great and terrible upon him, from the ſole of his foot to his crown, that there was no part of the ſkin of his body to be ſeen, but only about his teeth, which in all ſuch cutaneous diſeaſes doth for the moſt part wholly eſcape.

The ſecond is, they have the veſſels which convey life and ſenſe unto them, contained only in the inward parts, that the outward parts may be freer and better to grind.

The third is, that they are growing or encreaſing ſo long as man lives, ſo that what is worn away of them by their continual attrition and manducation, is daily repaired, otherwiſe they would grow ſhorter and ſmoother, and not be ſo able to perform their work; and this is a wonderful piece of the wiſdom of God in nature, which art cannot poſſibly reach unto; and

and therefore becauſe they cannot make their mills grow, as they daily decay by grinding; they are fain to ſupply that want, by often pecking their mill-ſtones, and at length changing them; and by thoſe means, as it were, renew their teeth, without which they were able to do nothing at all.

The laſt I ſhall mention is, that the teeth, of all the bones of the body are the hardeſt, and will ſuffer the leaſt from any other bodies whatſoever, and therefore are the fitter for ſuch a work as this. A mill-ſtone is of all other ſtones ſuppoſed to be the hardeſt, and therefore *Job* when he had expreſſed the hardneſs of the heart of the Leviathan by a ſtone; as if he had not ſaid enough, he farther adds one degree more, yea, ſaith he, *As hard as a piece of the nether mill-ſtone.* Theſe ſhort obſervations may ſuffice to teach us in the general, that the teeth alſo may be called the grinders. If we yet more particularly conſider them, and how they may be divided, we ſhall have a farther light into this matter. The teeth are of three kinds, either *Inciſores*, *Canini*, or *Molares*: The firſt are the broad fore-teeth; the ſecond are the next round-teeth; which are uſually called the eye-teeth; the laſt are the great double and hindermoſt teeth; the firſt, bite or cut the food; the ſecond, break or bruiſe the food; the laſt, chew or grind the food. And this diſtinction alſo may be found in ſcripture, the firſt are alluded to, where it is ſaid, *The*

rophets bite with their teeth, Mich. iii. 5. The econd, where it is ſaid, *He hath the cheek teeth f a lion*, Joel i. 6. And both theſe, where it s ſaid, *There is a generation whoſe teeth are as words, and their jaw teeth as knives*, Prov. xxx. 14. The laſt is alluded to, where it is ſaid, *While the fleſh was yet between their teeth, ere it was chewed, the wrath of the Lord was kindled gainſt the people*, Numb. xi. 33. They had bit the fleſh of the Quails, and had paſſed it rom the firſt teeth to the laſt, which are the grinders, and there it ſtuck till they died. And hus at length we are fallen upon the true, proper, and ſtrict inſtruments of grinding; we have hitherto been ſhewing the whole frame of the mill, and how ſeveral parts do wonderfully contribute towards this work, and now we are come to thoſe parts, wherein the cloſe pinch of grinding lieth, and that is in the great, broad, and hindermoſt teeth, which from the day of the writing of this allegory, to this preſent time, have ever among anatomiſts retained the name of grinders.

And that not without exceeding good reaſon, for the form and figure of theſe, above the reſt doth abundantly ſhew that theſe are the fitteſt of them all for this work; for theſe are bigger, larger, broader every way; eſpecially at the top, where their form is much-what like to that of a mill, where alſo they have eminent aſperities, and protuberances, exactly

exactly anſwerable to the roughneſs of the milſtones; by which the grinding is far more eaſily and perfectly performed; beſide, theſe are more firmly inclavated, and infixed into the jaw-bones, by treble, or quadruble roots; whereas all the reſt are but by ſingle, or double at the moſt; and being more ſtrongly rooted, they are the fitter for more eminent ſervices. Laſtly, and chiefly, the experience of every man doth ſufficiently confirm that this is the proper uſe of theſe teeth; and that the more ſolid food which needs greater manducation, cannot be ſufficiently comminuated for chyle, or ground low enough for the ſtomach, until theſe teeth have done this work upon it. And thus it is plain, that the jaws, and teeth, and eminently theſe laſt mentioned, are appoſitely and elegantly called the grinders; which how much ſervice they do to man while uſable, and how much detriment and loſs they bring upon him when they ceaſe from their uſe, is well known to all men. *Strong meat belongeth to men of full age*, Heb. v. 14. ſaith the author to the *Hebrews*. It belongs to them, and only to them becauſe they alone have, as I may ſo ſay, their mill in tune, their mouth full of ſtrong teeth, and ſet directly one againſt another, whereby they may bring the ſtrongeſt meat into a meet conſiſtence, and a due preparation for eaſy digeſtion in the ſtomach. But it may here be ſaid, there are many creatures that are not thus ſtrongly armed, and have not ſo

many teeth, nor thoſe they have ſo well ſet, as your poſition ſuppoſeth they ſhould be, for the due preparation of the meat; and theſe are the ſheep, the goat, the cow, the deer, and all other creatures that have teeth only on the lower jaw, and none at all on the upper. Theſe have no antagoniſt grinders, nor contracting milſtones, and yet theſe creatures in their full age, eat as ſolid food, and as hard of digeſtion, and withal, do as well with it, as they that are better provided in this reſpect. To this I muſt needs anſwer, it is very true, ſo that from hence we may take occaſion to admire the wiſdom of God in the various formation of ſeveral creatures, tending notwithſtanding to the uſe and benefit of them all. However this in theſe creatures is a want, and muſt have ſtood for a want, had they not been abundantly ſupplied in another kind. For all thoſe creatures that are thus deficient in their teeth, and only thoſe, are they which chew the cud, which is a re-aſſuming the food into the mouth, and a grinding of it afreſh the ſecond time, ſo that they are fain to do that at twice, and to be three or four times as long about it, as thoſe creatures whoſe grinders are better placed; neither would this ſuffice alone, for if they ſhould be chewing their meat all the day long with the teeth that they have, it would never be ſufficiently prepared for nouriſhment, were their not yet a farther pre-

paration in their bodies for that purpoſe; and that is, that thoſe creatures, and only thoſe, have a peculiar veſſel in their bodies aſſigned for this work, and that is that which anatomiſts call, *Omaſum*, and our butchers, the *Read*; wherein the meat muſt be macerated for a certain ſeaſon, and by the *fermentum* therein contained, brought to ſuch a conſiſtence, that afterwards by a little chewing in the mouth again, it may be committed to the ſtomach with the ſame hopes of ſucceſs, that in other creatures that are toothed on both ſides, it is committed at the firſt: Now, man being in the number of theſe laſt mentioned, muſt for the due preparation of all ſtrong food, truſt alone to his grinders; ſo that the time of ablactation of the child, and of alteration of the diet of the old man, is moſt certainly indicated by the beginning and ceaſing of the uſe of the teeth; milk is fit for babes, before their teeth come; and old men when their teeth decay, are again *become ſuch as have need of milk, and not of ſtrong meat*, Heb. xiii. 14.

Now by the ceaſing of the teeth we muſt underſtand, all thoſe infirmities that are incident to them by reaſon of age, whether looſeneſs, hollowneſs, rotteneſs, brokenneſs, blackneſs, foulneſs, ſtench, worm-eatenneſs, excreſcency, or whatſoever elſe may be any impediment to them in their uſe. But the chief ſymptom here intended is, the falling out, and conſequently

tly, the paucity of the teeth; which is
ered from the reaſon here annexed, *Be-*
they are few; which is very well tranſlated
ur language, following the vulgar *Latin*;
æ erunt molentes in minuto numero. For
ough the original word do primarily ſignify
nore than becauſe they are diminiſhed, yet
uſt of neceſſity be underſtood in reſpect
heir number; for otherwiſe they are not
iniſhed, but do grow ſo long as they remain
ie head, even to the extremity of old age.
as age comes on, the natural moiſture
he root of the teeth is conſumed, and a
ernatural is diſtilled thither in its room,
ch doth by degrees relax them in their
ets, and at length quite expel them: And
n ſome of them are thruſt out, and but a
left in, it is eaſy to conceive from what
1 been ſaid, how the chewing in the mouth
eth; yea, it ceaſeth more, when the teeth
few, than when they are none at all. For
1. the gums might act one againſt another,
, foraſmuch as they grow harder in old
, might do ſomething weakly towards the
wing of the meat; but when they are few,
hinder thoſe from working in the leaſt,
having no antagoniſts (were they firm in
head which they are not) are not able to
k themſelves, and ſo the whole grinding
eth; which is a very great and moſt cer-
ſymptom of this ſtate of weakneſs, and

yet it is neglected by our great master * of natural knowledge in this kind, in his best enumeration of the diseases of age.

And those that look out of the windows be darkened.

That by this clear expression the eyes and the infirmities of them in old age, is intimated unto us, was never yet, and I persuade myself never will be, in the least measure doubted or questioned.

Forasmuch as they are the only true, and proper organs of seeing; however, it will be well worth our labour to consider, how the eyes may be called, the lookers out of the windows. One may be said to look out of a window in a double sense, either when he looks thro' the glass of the window, and thro' the pellucidity of that most refined body, discerneth those things which are without; or when he looks thro' the open casement, or thro' some open hole of the window, wherein there is nothing at all interposeth between him and the object. Now in both these senses may our interpretation well be made. For the explication of it in the first sense, we must take notice of all those transparent parts, through which the visible species must of necessity pass before vision can be perfected: for as a man could see nothing thro' a window, were it not made of glass, or of some body alike diaphanous: So neither could he perceive any thing with his eye, were not the

* *Hippo.* l. 3. Apho. ult.

the parts thereof, through which paſſage is made, of the very ſame nature. Now, the parts of the eye, through whoſe bodies the viſible ſpecies muſt paſs that they may be diſcerned, are either the *humours*, or the *tunicles*; the *humours* are three, the *watry*, the *chryſtalline*, and the *glaſſy* humour, ſo called by anatomiſts; and you may perceive by their names that the ſubſtance of them all is diaphanous; all which, howſoever they wonderfully differ among themſelves, and ſeveral ways contribute to the uſe and benefit of the eye, and conſequently are made variouſly inſtrumental unto viſion, yet they all agree in this one thing, that they are tranſparent; and that they muſt of neceſſity do, foraſmuch as into their bodies, and thro' their bodies, muſt the viſible ſpecies paſs, before they can perfectly be diſcerned by any man. And if one opacous, or darkſome body interpoſeth, they can go no further, but there they muſt determine their courſe.

The *tunicles or coats*, through which the ſight is made, are only two; for although there are other tunicles of the eye, which conduce wonderfully to the ſight, (as you ſhall hear beneath) yet thoſe through which the ſpecies paſs, are only the *tunica aranea*, and the *cornea*. The firſt is ſo called from the ſimilitude of a ſpider's web, becauſe it is moſt fine and ſubtile, and being derived from the brain and optick nerve, it becomes a moſt tenuous

veſtment for the humours; and is ſo pellucid, and tranſparent, that among the learned it bears the name of *ſpeculum*. The other is called, *ſclerotica*, or *cornea*; and that is, that hard and horny membrane, which being derived from the *dura mater*, encompaſſeth the whole body of the eye, without any perforation; and on the back part, behind the ſight of the eye, is more obſcure and dark; but on the forepart, is far more plain, polite, and diaphanous, that the ſpecies may paſs thro' its body moſt pure and unaltered. And now I am come to that part of the eye, that doth moſt aptly reſemble the glaſs of the window, by reaſon of which a man may be truly ſaid to look through a window, and an old man, *to ſee through a glaſs darkly*, 1 Cor. xiii. 12. without the uſe of ſpectacles, which ſome would fain have here to be underſtood; of whoſe opinion I cannot perſuade myſelf to be, becauſe it is uncertain to me, whether thoſe helps of nature were then, and there, in uſe: And moſt certain it is, that they are without the compaſs of the allegory, and are not part of that houſe or body of man, whoſe decay is here ſo livelily repreſented. Beſide, this tunicle hath the ſame uſe to man, in his perfect ſtate, that ſpectacles have in his imperfect. And this be confident of, that there is nothing that art hath found out to help man in his decays, that hath not its footſteps firſt in nature, and is not an imitation of thoſe things in man, that were moſt com-

compleatly in him in his perfection. And here I muſt of neceſſity go one ſtep farther than our common oculiſts; who aſcribe to this part but a low and a mean office, which is only to keep the humours in their place, or at the beſt, to defend the inward parts from external injuries; but without all queſtion, it hath this farther, and more noble uſe, *viz.* ſo to diſpoſe and order the viſible ſpecies, that they may in the moſt convenient manner, make their impreſſion upon the proper organ of ſight; and this their craſſitude or thickneſs, together with their convexity or bending outward, doth ſufficiently make appear. I here all along retain the term of the ancients, *viz. viſible ſpecies*, as being moſt known, and that by which I may be better underſtood among moſt, to whom this paraphraſe may come, though it be not ſo proper, and the conceptions which they had about them, are not to be admitted; for there is no new entity, either material, or immaterial, caſt off from the object, diſtinct from it, and from the light, which is the cauſe of viſion in the eye; by the *viſible ſpecies* therefore, I mean no more than the ſeveral beams of light being ſo reflected from the object, as that they become fully fraught with the repreſentation of it; (not only in reſpect of the proper objects of ſight, which we call colour, but of theſe common ones alſo, which we call ſituation, figure, diſtance, bigneſs, and the like) and have a

compleat power of impreſſing the ſame upon the *retina*, which is the ſtrict and proper organ of ſight, and is nothing elſe than the dilatation of the optick nerve all about the bottom of the eye. For the bettter underſtanding of all which, we muſt know that the ſpecies paſs along the medium in a pyramidical figure, and as they are caſt off from one point of the ſuperficies of the object in a cone, ſo they muſt be reduced again in the ſame conical figure upon one and the ſame point of the organ; which reduction is performed by that collection, refraction, and direction, which happeneth to them in thoſe ſeveral pellucid bodies through which they paſs, and primarily (while the eye remains in its vigour) in the *tunica cornea*; but as age enfeebleth the eye, the form and figure of it becomes more plane and depreſſed than it was before; and the cryſtalline humour, which had a power of reducing itſelf, and conſequently the whole body of the eye, to a more oblong and convex ſhape, becomes dry, and altogether unable for ſuch an end; ſo that now the ſpecies caſt off from the object at a convenient diſtance, cannot be brought to a cone upon the organ, which muſt needs breed a confuſion in the ſight: To avoid which confuſion, old men hold the object that they look upon at a greater diſtance from the eye, becauſe ſo, the preſent conſtitution of the eye can better regulate the ſpecies; and thus alſo ſpectacles

tacles are placed before the eye to collect, refract, and guide the ſpecies, that they may point together upon the *retina*; which by how much the thicker, and more convex they are, by ſo much the more powerfully do they do this work: And therefore as age encreaſeth, and the form of the cryſtalline humour and of the whole eye is more depreſſed, ſo much the thicker, or ſo much the more convex, or both, muſt the ſpectacles be made, that they may be anſwerable to the age. And this done only in imitation of that, which is far more perfectly done while man abides in ſtrength, by the hard membrane we are now treating of; and this is the firſt ſenſe in which the eyes may be called the lookers out of the windows.

The other is, that whereby they may be ſaid to look *through the holes* of the window, when there is an open paſſage, and nothing at all interpoſeth between them and the object. And this indeed is the moſt proper reading of the words. בארבות ſignifieth *in foraminibus*, or as the vulgar *Latin*, *per foramina*; and the ſeventy, ἐν ταῖς ὀπαῖς. Now there are ſeveral ways, whereby the eye may be ſaid to look in, or through the holes.

The firſt is, in reſpect of their ſeat, or the form of that place, in which they are fixed in the head. And if we ſhould ſtrictly hold the word to that interpretation of *in foraminibus*, or the lookers in the holes, nothing could be

ſo applicable as this; and hereunto to be ſure the *Chaldee* paraphraſe hath reference, *Qui vident per cancellos capitis tui*, thoſe that look in, or through the ſtrong bounds of the head, which can be no other, than thoſe firm holes, or arches, which are made in the fore-part of the head, for that very purpoſe, *viz.* to receive into their cavities the whole body of the eye: And theſe are by oculiſts called *orbitæ*, and are each of them compounded of ſix ſeveral bones, which, being moſt conveniently ſuturated among themſelves, do make up thoſe curious arched chambers in which theſe lookers or beholders dwell, in which, and from which, they may be aptly ſaid to perform their offices. And to theſe alluſion is had in the plague wherewith the Lord will ſmite thoſe that fight againſt *Jeruſalem*, *Their fleſh ſhall conſume away while they ſtand upon their feet, and their eyes ſhall conſume away in their holes*, Zach. xiv. 12.

Secondly, They may be ſaid to look in, or through the holes; in reſpect of the *palpebræ* or eye-lids; for although the uſe of the eye-lids is to cover or cloſe the eyes, ſo that they are called, *oculi ab oculendo, vel occultando*, becauſe they lie hid under their lids; yet whenſoever the eye is exerciſed in ſeeing, they muſt depart one from another, and ſo leave an open hole through which the ſight may be made. And thus every man diſcerns in himſelf that he

he can take away ſight or cauſe it arpleaſure, by drawing, or withdrawing; by letting down, or pulling up, theſe ſhutters of the windows. And it is wonderful to conſider how ready they are in this work, that they might be no impediment to viſion; ſo that an inſtantaneous action is no way better expreſſed, than by the motion of the eye-lids: *Behold I ſhew you a myſtery, we ſhall not all ſleep, but we ſhall all be changed in a moment, in the twinkling of an eye,* 1. *Cor.* xv. 52. And when we look earneſtly upon any thing, we ſtedfaſtly keep the windows open; and a ſhut eye, in ſcripture phraſe, ſignifieth impoſſibilty of ſeeing; *Shut their eyes leſt they ſee,* Iſa. vi. 10. and an open eye ſignifieth power of looking or beholding; *Open the eyes of theſe men,* ſaith *Eliſha, that they may ſee; and the Lord opened their eyes, and they ſaw, and behold they were in the midſt of Samaria,* 2 Kings vi. 20. And a Seer, and a man whoſe eyes are opened are the ſame thing, *Balaam the ſon of Beor hath ſaid, and the man whoſe eyes are open hath ſaid, he hath ſaid, who heard the words of God, who ſaw the viſion of the Almighty, falling into a trance, but having his eyes open,* Num. xxiv. 3, 4. And thus alſo may the eyes be ſaid to look through the holes, and all thoſe that have taken exact notice of the *foramina cutis* in the body of man, have been ſure not to neglect theſe.

Thirdly,

Thirdly, They may be ſaid to look through the holes, in reſpect of that outward membrane of the eye, which is called *adnata*, or *conjunctiva*; and this is that which being divided from the *pericranium*, is next of all to the *orbita*, and firmly holdeth the eye in that cavity; it encompaſſeth the eye round on the back-part, and on the fore-part ſo far as the white of the eye goeth, and no further, and ſo leaveth the whole *iris*, the rainbow, or party-coloured part of the eye, as an open hole, which the viſible ſpecies may freely without interruption paſs through; the truth of this any one may diſcern in the inflammation of the eyes, for that is a diſeaſe for the moſt part ſeated in this part alone; then you may ſee the veins and the arteries very red and ſwollen, ſo far as this membrane or the white of the eye reacheth, and the *iris* or darker part of the eye in the mean while wholly free.

Fourthly, The eyes may be ſaid to look through the holes in reſpect of the *pupilla*, or the apple of the eye, which is nothing elſe but an open hole in one of the coverings of the eye, as I may ſay, bored for that very purpoſe, that the lookers thro' the windows might have an open view; for that covering which is called *tunica uvea*, is a thick and a cloſe, a duſky and a dark membrane, thro' which the viſible ſpecies, or the light cannot eaſily make its way. And therefore on the back-part its uſe is to preſerve, and

to

to keep together the innate light of the eye, and alſo to give a ſtop to the viſible ſpecies, ſo that they can paſs no farther, but muſt there impreſs their images like the lead, or the ſteel, or whatſoever elſe is put on the back-ſide of the looking-glaſs, without which there can be no impreſſion made; but on the fore-part it is moſt conveniently perforated, and at ſuch a proportion, that the light or the ſpecies through it have freedom of acceſs: which perforation is the apple of the eye, that wonderful part, which is ſo often noted in ſcripture (*Gen.* xxxii. 10. *Pſal.* xvii 8. *Prov.* vii. 2.) to be above all other parts of the body tendered and obſerved, and therefore here I would principally take notice of it; and of all the parts of the eyes, and of all the holes thro'. which they look, let this be always accounted the moſt obſervable. For it may be dilated, or contracted, as it may be conducible to a more perfect ſight; if there be requiſite thereunto, a greater or a leſſer light; if the object we would look upon, be farther off, or nearer to the eye; or if we do more careleſly or curiouſly look upon it; this hole is preſently made wider or narrower, that it may be the more ſerviceable for the preſent occaſion.

Laſtly, They may be be ſaid to look thro' the holes in reſpect of the *optick nerves*, for theſe above all the other nerves of the body are apparently perforated; and although neither

ther theſe, nor any other, do ſo appear in a body that hath been long dead, yet doubtleſs they have open paſſages while the body is yet alive, for as much as they are the conveyers of matter, though more pure and refined, from one part unto another, as the other channels of the body are. And here the cavity and poroſity of the optick nerves ought as well to be reckoned among the holes through which ſight is made, as any other that are placed before the proper organ upon which the repreſentation of outward objects is firſt made, and that becauſe there can be no perfect perception of any thing, unleſs the impreſſion made; upon the ſenſory be truly conveyed into the moſt inward receſſes of the brain, where the ſoul makes its ſeat of judicature. For as all the things in a chamber may have their firm repreſentation in a glaſs that ſtands upon the table, yet if any thing interpoſe between me and the glaſs, I diſcern nothing at all; and they are all as much hid from me, as if they had never been there repreſented. And thus we know a total obſtruction of the optick nerve, which is called *gutta ſerena*, makes as perfect a blindneſs, as an obſtruction of the humour *aqueus*, which is called a *cataract*. And thus I have endeavoured to ſhew, and that I hope with ſome ſatisfaction, how the eyes may be called, the lookers thro' the windows. Now age comes on and encreaſeth, it is well known to all men how ſighe

goeth

goeth away and decreaſeth; the lookers out of the windows muſt aſſuredly be darkened, and by how much the more excellent theſe parts are, by ſo much the more apparent are their decays. It is ſaid of the heart, it is *primum vivens*, and *ultimum moriens*; but contrariwiſe it may very well be ſaid of the eye, that it is *ultimum vivens*, and *primum moriens*. This moſt wonderful and tender part of man, in that it hath more curious and more various work in its formation, is the laſt that lives; and in that it hath need of more life and vigour, more firmneſs and purity in its operation, it is the firſt that dieth; and indeed the inſenſible encroach of age, is no where ſo ſoon diſcovered, as in the eye; and men are loth to think themſelves declining in age ſo ſoon as the eye gives warning thereof; and we have ſcarce any deſcription of an old man by his infirmities, wherein thoſe of the eye are not principally mentioned: When *Iſaac*, *Jacob*, *Eli*, and others are recorded as old, it is ſaid of them, *Their eyes were dim and they could not ſee*, Gen. xxvii. 1.—xlviii. 10. 1 Sam. iii. 2. for whatſoever may either incraſſate the diaphanous bodies before mentioned, and render them leſs tranſparent; or ſtop the ſeveral perforations, and ſo hinder that open view: muſt of neceſſity cauſe a diminution, and in time a perfect abolition of the ſight; and here give me leave to name one or two principal ſymptoms of viſion

ſion that are the chief attendants of this declining ſtate; the firſt is *caligo*, which is the obſcurity of viſion by reaſon of the craſſitude or thickneſs of the *tunica cornea* *; which by reaſon of the drineſs of age doth together with the nails of the fingers, grow darker and thicker, and conſequently loſe daily ſomewhat of its perſpicuity: Another is *glaucoma*, which is the change of the colour of the cryſtalline humour, by reaſon of its dulneſs and thickneſs, whereby old men do look upon all things as it were through ſmoak, or a cloud, and ſo do but darkly diſcern them: Another is *zinifiſis*, which is a change of the figure of the whole eye, whereby it becomes more plain and depreſſed, and a drineſs in the cryſtalline humour, whereby it is unable to reduce the eye to that form, which may be moſt advantageous to viſion; ſo that they cannot perceive any thing at an equal diſtance, but muſt have their objects more remote from the eye, or the ſpecies firſt refracted and directed by the uſe of ſpectacles: Another is *ſuffuſio ex cruditate*, or any interpoſition of any preternatural matter between the ſight and the *tunica cornea*: I might alſo add *corrugatio & relaxatio uveæ tunicæ*, the contraction or dilatation of the apple of the eye; or whatſoever elſe by obſcuring the glaſs, or obſtructing the holes, may be juſtly ſaid to darken the lookers out of the windows.

VERSE

* *Fernel.*

VERSE 4.

And the doors ſhall be ſhut in the ſtreets, when the ſound of the grinding is low, and he ſhall riſe up at the voice of the bird, and all the daughters of muſick ſhall be brought low.

THUS far the preacher hath been treating of all thoſe faculties which are termed *animal*, and their decays in the time of age; he paſſeth in this verſe to thoſe other which are called *natural*, of which he treateth in the beginning of this verſe, and then to thoſe that are mixed, in the latter end; and that in a double reſpect, firſt, thoſe that are mixed of the faculties, inward and outward, and that is expreſſed in the want of ſleep, in thoſe words, *He ſhall riſe up at the voice of the bird*; foraſmuch as ſleep,* if perfect and ſound, is the ligation of all the ſenſes both inward and outward for the refreſhment both of the mind and body. The other mixture of faculties is of vital and animal, in the laſt words, *All the daughters of muſick ſhall be brought low*; for the paſſive daughters of muſick belong to the animal faculty, being the inſtruments of an outward ſenſe, *viz.* hearing: And the active daughters of muſick belong to the vital, being the inſtruments of reſpiration, as you ſhall hear hereafter. Now to the underſtanding of this verſe, eſpecially the former part of it, I hope to

* *Fernel.* l. vi. Pathol. c. 11.

to let in ſome glimmering of light, which formerly hath lain undiſcovered.

The doors be ſhut in the ſtreets, when the ſound of the grinding is low.

For the right underſtanding of theſe words, we muſt be ſure in the firſt place to take notice that all theſe words are but one ſentence, and conſequently but one clauſe of the deſcription of age; the former words, *viz. The doors ſhall be ſhut in the ſtreets*, are not a diſtinct ſymptom of themſelves, as moſt men have formerly ſaid, but they have their reference to the enſuing words, *viz. When the voice of the grinding is low.* And the doors and ſtreets here mentioned, are no other, than ſuch as concern the grinding, and are [illegible] unto that. And I perſuade myſelf, that the hitherto miſcarriage in the interpretation of theſe words hath proceeded from neglect of this conſideration. The doors ſhall be ſhut when the grinding is low, and only then; and the lowneſs of the grinding, is the cauſe of the ſhutting of the doors. *In humilitate vocis molentis*, ſaith the Vulgar Latin. *Ob, per, vel propter depreſſionem vocis molentis*, ſay others, and that very conſonant to the original, inaſmuch as the grinding ſhall be low, or by reaſon of the lowneſs of the grinding, the doors ſhall be ſhut in the ſtreets. Wherefore for the better clearing of the whole ſentence, we muſt firſt of all ſhew what

what is to be underſtood by the *grinding*; and afterwards what the doors and the ſtreets are, and what the ſound of the grinding, will eaſily be made appear. The wiſdom of *Solomon* is ſo famous throughout all regions and ages, that I need not here apologize for it. It would be unbecoming an ordinary writer, much more the penman of this allegory, to deliver the ſame thing twice in a breath; and I wonder with what face any interpreters could put ſo great an abſurdity upon the wiſe man, as to make this grinding ſignify no more than that juſt mentioned before. But for the clearing of this, we muſt know that grinding is of two ſorts, either *Per extra poſitionem*, or *Per intra ſuſceptionem*, (as philoſophers uſe to diſtinguiſh of augmentation,) there is an *extrinſical*, or an *intrinſical* grinding; the former of theſe is performed when two hard bodies, acting againſt each other, do break and bruiſe into ſmall parts that which is put between them. And this is the grinding as in a mill, of which you heard before. The latter of theſe is performed, when the parts of the ſame maſs, by reaſon of the exaltation of ſome internal principle, or the addition of ſome *fermentum*, are ſo acted among themſelves, that the whole maſs, and every the leaſt part thereof, is changed and brought into a new conſiſtence. And this, philoſophy calls *fermentation*, and is that of which the wiſe man ſpeaks in this place; and it is therefore called grinding, be-

cauſe

cauſe it accompliſheth the end thereof better than any mill can do. It will comminuate things of ſo hard a ſubſtance that no mill can break. I would fain know what mill could have ground *Aaron*'s golden calf? but by the help of fire, and poſſibly ſome ſpecific menſtruum, as a proper key for that ſolar mineral, it was eaſily ground to powder, *Exod.* xxxii. 20, *Deut.* ix. 21. Again, it can divide the matter that is to be ground into ſmaller parts than any mill can do; it will not leave the moſt minute part unſearched, *A little leaven*, ſaith the ſcripture, *leaveneth the whole lump*, 1 Cor. v. 6, Gal. v. 9. And our Saviour's expreſſion of it, is yet more ſignificant, *The Kingdom of heaven is like unto leaven, which a woman took and hid in three meaſures of meal till the whole was leavened*, Mat. xiii. 33, ἕως οὗ ἐζυμώθη ὅλον, till the whole of the maſs, and every one of the leaſt parts thereof be leavened. No mill can be ſet ſo low, as to grind every corn, and every part of every corn; but leaven leaves none untouched, but divides (beyond what Philoſophy gives way for) into parts indiviſible.

Now of this ſort of grinding there is very much to be found in the body of man: And indeed all the natural alterations that tend either to the preſervation of the perſon, or propagation of the kind, are the products of this inteſtine grinding. And there is ſcarce a part in man, eſpecially an internal *viſcus*, that doth not particularly

ticularly contribute to ſuch a work as this. And ſurely, that which lies daily upon our trenchers, had need of many thorough grindings, that it may be really tranſubſtantiated into our fleſh; theſe in the body of man are by phyſicians called digeſtions, or concoctions, and are to be found almoſt in every part, as was ſaid before; but I ſhall inſtance only in a few, and thoſe well known to all thoſe that have the leaſt ſkill in natural things; and theſe few grindings, together with the voice of them, the doors and ſtreets that lead to and from them, being well underſtood; thoſe that are more accurate in the knowledge of all the alterations of the nouriſhment of man, may thence-from eaſily attain the whole intent and purpoſe of the wiſe man in this part of the deſcription of age. I ſhall only mention five: Three in reſpect of the individual; and two in reſpect of the ſpecies; and they are thoſe common ones; *chylification*, *ſanguification*, *aſſimilation*, *lactification*, and *ſpermification*.

The firſt of theſe, *viz. chylification* is thus performed; after the meat is ſufficiently chewed in the mouth, it is committed to the ſtomach, where continually there lieth treaſured up a certain acid juice, the relicts of the laſt concoction; which (as the leaven in the bread) doth preſently infect the whole maſs, and every part thereof; and doth ſo penetrate and ſearch the parts, and ſo divide and ſeparate them one from

from another, and join itſelf to every o them, that at laſt the matter of nouriſh is ſo perfectly ground, that it is brought new conſiſtence and colour, very like t cream of barley, and is that phyſicians ca *chyle*; and is the firſt intrinſical grinding the food receiveth, and is next of all to t the mouth, and not altogether unlike t and therefore when maſtication is but w performed, you heard before that it was h by infuſion of the food in a ventricle pre for that purpoſe, whereby the parts were among themſelves, and better comminu than if they had been never ſo long chew the mouth.

The ſecond of theſe, *viz. ſanguificat* performed, when the *chyle* itſelf is ground again, and receiving yet farther exaltatio a greater ſolution of the more noble, an tive principles; it once again depoſites it colour, and conſiſtence, and ſo at lengt comes perfectly changed into that true liqu life, which is called *blood*, Lev. xvii. 13 and although it muſt always be acknowle that the *chyle* doth receive many alterations exaltations before it come to the heart, al in every part it paſſeth thro', both in the themſelves, in the meſentery, the gland and the milky veſſels, both of one ſort, of another; and alſo in the veins; and it hath paſſed through the heart, it mu

once or twice circulated through the body, and receive ſeveral defecations, as in the liver, the ſpleen, the kidneys, and the like; before it be compleatly accompliſhed for its ultimate uſe, all which exaltations, and defecations, are included in this text; yet it muſt ſtill be remembred, that the principal and ſupream exaltation of the blood, the moſt eminent and remarkable grinding towards ſanguification, in compariſon of which, all the others are little to be accounted of, is always performed in the *heart*, that fountain of life; for as ſoon as the *vena cava* hath committed the matter of nouriſhment into the right ventricle of the heart, the *fermentum* therein contained working ſuddenly and throughly upon it, ſets the active principles at a greater freedom, and ſo inducing new motion, and effervеſcence into the blood, doth happily impregnate it with vitality. And not only this new matter of nutrition, when it firſt attingeth, the heart is thereby enlivened; but the beſt blood itſelf, after that by various circulations, and imparting its power and life to the parts that are nouriſhed by it, it becomes weak and much depauperated; is fain to return back again to the heart for a freſh impregnation. And ſuch a vaſt difference there is between the blood in the arteries newly briſked in the fountain, and that in the veins lowered and impoveriſhed with its journey, that the ancients took them

for two ſeveral things, and knew not that they were the ſame; like the men of *Bethlehem*, who knew not *Naomi*, Ruth i. 19, 20, 21. nor would acknowledge her the ſame perſon, becauſe ſhe went out full, and returned home again empty; and ſhe herſelf was not unwilling to have changed her name: And he that ſhall call the rich blood going out in the arteries, *aerial*, *jovial*, *ſpiritual*; and the mean and poor blood returning home in the veins, *earthly*, *ſaturnal*, *groſs*, ſhall make no ſchiſm at all in the unqueſtionable doctrine of circulation.

The third of theſe, *viz. aſſimilation*, is then performed, when the nutritive juice is ſufficiently prepared in all things that are allotted to it, and by the impulſe of the conveying veſſels is brought near to the parts that are to be nouriſhed, and then every one of the parts by a certain allective property of its own, doth draw that which is moſt agreeable to itſelf, and then falls to acting, ſearching, breaking it over again into moſt minute parts; and ſo thoſe that are like to prove unconformable, are excommunicated to the pores; and the other are taken into joint fellowſhip and communion, and ſo made one with the part; and that which is moſt remarkable is, that *according to the time of life*, Gen. xviii. 10. wherein augmentation or encreaſe of ſtature is appointed to man, every one of the parts takes ſo much to itſelf as will anſwer its daily growth, and after that

is accompliſhed, every part takes only ſo much to itſelf, as doth anſwer its daily decay. *The children of Iſrael gathered manna in the wilderneſs, ſome more, ſome leſs, yet when they did mete it in an omer, he that gathered much, had nothing over; and he that gathered little, had no lack; they gathered every man according to his eating*, Exod. xvi. 17, 18. This is truly verified in the food of all mankind. Some there be that make greater preparations for the belly, otherſome there be that make leſſer, yet when this comes to the meaſure of God, I mean, to be put to that end which he hath appointed, he that made the greateſt hath nothing over, and he that made the leaſt hath no lack, every one according to his waſting. The princes ſuperfluities, and the beggars penury, both of them make but equal reparation for the daily conſumption of their own fleſh.

The fourth that I mentioned, was the *making of the milk*; which although it be peculiar to one ſex only, yet I cannot but take notice of it among the reſt, becauſe a principal alteration of the nutritive juice is thereby made, and the wiſdom and goodneſs of God is therein (as in the formation and birth of the infant) moſt eminently made appear. *Thou art he* (ſaith *David*) *that took me out of the womb, thou didſt make me hope when I was upon my mother's breaſts*, Pſal. xxii. 9. Now, this is thus performed: The breaſts by their attractive property, draw

from the arteries that blood, which is the leaſt altered from chyle, as being moſt agreeable to their glandulous ſubſtance; and from the nerves, that juice which they convey for the nouriſhment of the ſpermatick parts, and by a ſpecifick *fermentum* in themſelves contained, do ſubact, and comminuate, both theſe liquors, and by a perfect mixture of them, and a certain peculiar alteration, at length produce that white, ſweet, pleaſant, alimentary liquor which we call the *milk*, which containeth in it meet matter of nouriſhment for all the parts of the child, both *ſanguineous*, and *ſpermatical:* and is the moſt proper food for it, and exactly agreeable to that, with which it was ſuſtained in the womb.

The laſt of theſe we have named is, the *production of ſeed*, which becauſe it is the higheſt, and moſt wonderful of them all, it had need of greater preparations, and more alterations than all the reſt; and therefore it is, that there are ſeveral veſſels appointed for that purpoſe, and many admirable combinations, complications, and intertextures of them all, which are not elſewhere in the body to be found. The *vaſa præparantia*, and *deferentia*, the *vas varicoſum*, the *epididymis*, and *paraſtatæ*, the *veſiculæ ſeminales* alſo, and the *proſtatæ*, do each of them add ſomewhat to the making of the ſeed meet for propagation; but it muſt always be acknowledged that the principal *fermentum* that doth

moſt of all exalt the ſeminary matter, and chiefly render it prolifick, is contained in the ſoft, ſpungy, glandulous ſubſtance of the *teſtes*; which therefore beat their name, becauſe they give teſtimony of virility, and ſhew that a man is perfect in his kind, and therefore able to produce his own image, *Gen.* v. 3. the ſpirituous and benign matter moſt apt for generation, being from all the parts of the body by the arteries and nerves conveyed to theſe parts; it is herein, by a myſterious faculty of their own, elaborated into that noble *elixir*; which from one man hath dilated the world to ſo many millions as of which it now conſiſts; and doth continually from generation to generation make abundant reparation for the cruelties of the King of Terrors. For although in the ſpace of an hundred years or thereabout, all the living upon the face of the earth are driven thencefrom by the ſtroke of death, yet by the vertue of this divine extract, the earth is at all times ſufficiently peopled, and the inhabitants thereof perceive no lack. So that this doth in a manner perpetuate mortality, and cauſe men to ſurvive the funerals of all mankind. Hence it is that the wiſdom of God in ſcripture doth always expreſs poſterity, and the generations that were yet to come, by the word *ſeed*, *I will put enmity between thee and the woman, between thy ſeed and her ſeed*, Gen. iii. 15. And the Lord ſaid to *Abraham*, *Look now to-*

wards heaven, and tell the ſtars if thou be able to number them, ſo ſhall thy ſeed be, Gen. xv. 5.

And this is the laſt operation in man which I ſhall mention that is here intended by the word grinding; and this, *viz.* the preparation of ſeed (if not all the other) is eminently called grinding, in that place where it is ſaid, *Let my wife alſo grind to another, and let others bow down upon her,* Job xxxi. 10. and all the other alterations of the nutritive juice in man (if not this alſo) are eminently ſo called, in the ſtory of *Samſon*; for although it be generally underſtood that *Samſon* ground in a mill, and our later commentators (as if in a mill themſelves) following the beaten tract, do all take it up from others, and leave it unto others as granted: yet in the text there is not once mention made of a mill, but there are many circumſtances that do to me clearly evince the contrary; the words run thus, *The philiſtines took him, and put out his eyes, and brought him down to Gaza, and bound him with fetters of braſs, and he did grind in the priſon houſe,* Judges xvi. 21. Wherein it is very obſervable, that it is not ſaid, they made him grind, or they forced him to grind, but he did grind in the priſon houſe: And it is ſo much the more obſervable, becauſe all the injuries done to him before named, are expreſſed by a force put upon him; they took him, they put out his eyes, they brought him down to *Gaza*, they bound him with fetters; and if this laſt,

had

had been a like injury and force unto him, it had been more congruous to have continued the ſame manner of expreſſion, and to have ſaid, *They made him grind*; but the violence is here left out, and his grinding made his own doing, *He did grind in the priſon houſe*. Beſide thoſe manicles put upon him were exceedingly inconvenient for a grinder in a mill: And it is moſt improbable, that for that ſmall advantage or pleaſure that ſhould accrue to them by his grinding in a mill, that they ſhould at any time take off his fetters, ſince they had had ſo many, and ſo ſad experiences of his unparallell'd ſtrength. And if at any time they ſhould looſe him, then ſure was the leaſt danger, when the lords of the Philiſtines, and three thouſand of the people were gathered together to ſee him make ſport; yet at that time he was kept (by his chains doubtleſs) at the diſpoſure of a lad; *For Samſon ſaid to the lad that held him by the hand, ſuffer me that I may feel the pillars whereon the houſe ſtandeth, that I may lean upon them*, ver. 26. Moreover, the ancient rabbies give us an interpretation upon this place, which is not altogether improbable, and which is confirmed unto us by *Hieron* in his commentary upon the ſecond verſe of the forty-ſeventh chapter of *Iſaiah*, and that is, that this people being very deſirous of giants, and boaſting much in their ſtrength (as is well known by ſacred ſtory) brought of their choiceſt, and luſtieſt women

to him in the priſon, that from this mighty deſtroyer of their country, they might have a gigantick race for its preſervation: However in the main, I perſuade myſelf, his grinding was nothing elſe, but performing the offices of nature, his eating, and drinking, and being nouriſhed there; his turning his food into chyle, his chyle into blood, his blood into fleſh, and other the like natural operations, which is the true meaning of the word grinding in this place.

We now proceed to *the ſound of the grinding*, which is nothing elſe but that, by which the grinding is known, ſome natural ſymptom ſignificative of digeſtion; and all thoſe indications that do demonſtrate that the works of nature proceed aright, and according to their primitive inſtitution (whether it be the appetite of the parts, their action or excretion of their excrements, thoſe ſubſervient faculties which uſually are called *attraction*, *retention*, *expulſion*, or whatſoever elſe may manifeſt concoction) may truly and properly be called the voice of the grinding. I ſhall inſtance in a few, whereby the reſt may be eaſily diſcerned, and therein I ſhall obſerve my former method, having reference only to thoſe five great works of nature before treated of. The voice of the firſt grinding, is the natural appetite of the ſtomach to meat and drink, and is uſually called hunger and thirſt; the ſtrength and power of the

ſtomach

ſtomach to retain its food; and the ſeaſonable evacuation of well concocted excrements. The voice of the ſecond, is a free paſſage of the chyle without obſtruction; a quick, ſtrong, and a lively pulſe; a due ſeparation of gall, of urine, and the reſt of the excrements of this concoction. The voice of the third, is the proper tone of all the parts of the body; the faſtneſs and fulneſs of the fleſh; and convenient perſpiration. The voice of the fourth, *Gen.* xxxi. 3. is the cuſtom of women; the ſtiffneſs, lively colour, and freſhneſs of the nipples; the ſmoothneſs, fairneſs, elevation, and towering of the breaſts, as it is called in ſcripture, *Her breaſts are as towers*, Cant. viii. 10. The voice of the laſt, is appetite, aptneſs, and ability for copulation; inflation, and turgeſcency of the ſeminary veſſels both *preparatory*, and *ejaculatory*, commonly called *fretation*; a right temperament of the parts appointed for propagation, ſtrength, vigour, and livelineſs of the whole body beſide. Theſe, and the like excellencies of nature are the voice of the ſeveral grindings while they remain in power; but as age enfeebleth a man, the grindings are weaker, and the ſeveral voices of them more ſubmiſs; wherefore it doth neceſſarily follow, that in decrepit age, all the before mentioned indicators of ſtrength and perfect concoction muſt be depraved, diminiſhed, or aboliſhed; which is the lowneſs of the ſound

of the grinding, and doth include the weakneſs of the natural faculties in man which ſtand in direct oppoſition to thoſe excellent voices before treated of, and ſuch are theſe that follow: *dejectus appetitus, imbecillitas ſtomachi, fæces alvi indebitæ: obſtructiones omnes, pulſus debilis, rarus, tardus; mala ſanguinis defæcatio quo ad ſerum, bilem,* &c. *tonus partium vitiatus, carnis ariditas, indebita perſpiratio: ceſſatio menſium, papillarum pendentia & lividitas, mammarum flaciditas & rugoſitas: impotentia & inappetentia concubitus, vaſorum ſpermaticorum imbecillitas & νέκρωσις, teſtium & partium propagationi dicatarum cachexia & refrigeratio, totius corporis languor & marceſcentia,* Rom. iv. 19. Theſe are the decays of a man intended in this part of the allegory.

Now the grinding and the voice thereof being thus far explained, I queſtion not but the *doors* and *ſtreets*, that relate thereunto, are by this time underſtood; but becauſe the word *doors* hath ſome peculiarity in it, I cannot but take more notice of it: דלתים this word being of the dual number, ſignifieth properly the two doors, or both the doors, or the double doors. And although I know no authority for the tranſlating of it into *Latin*, otherwiſe than *fores*, or *oſtia*; yet I ſubmit it to the learned to conſider, whether the word *valvæ* or *valvulæ* will not as well, if not better, agree to the text; the folding doors, or the doors that clap toge-

together, or that have a double uſe. For the better underſtanding it, therefore, we muſt know that the doors that relate to the grinding before ſpoken of, are of two ſorts; either the *extreme doors*, or the *intermediate doors*. Again, the extreme doors alſo, are of two ſorts; either the *fore doors*, or the *back doors*; either the doors that firſt let in the matter of nouriſhment for the body, that it may therein be ground for its uſe; or the doors that laſt let out the relicts of the grindings, or that matter that upon the ſeveral grindings becomes altogether uſeleſs. The fore doors, or the doors by which the food is firſt let into the body, are none other than the lips, for by the ſhutting of them, the meat is kept out, and by the opening of them, it is let in, to the firſt grinding in the mouth. And as they are called doors in reſpect of words, foraſmuch as they let them out; *Keep the door of my lips*, ſaith *David*, Pſal. xli. 3. And again, *Keep the doors of thy mouth from her that lieth in thy boſom*, Mic. vii. 5. So they may as aptly be called doors in reſpect of the meat; for they let that in.

And hence it is, that the orbicular muſcles, which make the ſubſtance of the lips, (being therefore called the *calves of the lips*, Hoſ. xiv. 2.) and have the power of the keys to ſhut and open them, are called *oris pylori*, the explication of which word (as being very conducible to what we are now about) you have hereafter.

And therefore thoſe former interpreters that have applied theſe words to the lips, have done exceeding well; the report they have given hath been true; yet I may, with the queen of *Sheba*, farther add, *Behold the half hath not been told us, the wiſdom of Solomon exceeding the fame which we have heard*, 1 Kings x. 6, 7. For beſide theſe fore doors, there are other extreme doors alſo, *viz.* the back doors, which ſerve only for the carrying out of the excrements. And although the ears, the noſtrils, and the eyes, and all the *emunctories* of the body may be here included, yet thoſe which are principally intended, are thoſe eminent poſterns, which ſo long as a man lives in ſtrength are always ready for their work, which is to give paſs to thoſe three ſeveral excrements which we daily avoid, either by the guts, the bladder, or the habit of the body; and therefore theſe doors are, *ſphincteres ani, & veſicæ, & peri cutis.* For all theſe have a power of opening and ſhutting, and conſequently of keeping in, or letting out whatſoever comes unto them, and are often at convenient ſeaſons retracted for the cleanſing of the body. Thus far of the extreme doors, which are placed at the extremity of the body, and ſerve only for inlets or outlets to the ſurface of the body, for all that which is either deſired or rejected of nature. The intermediate doors are ſeated within the body, and are inlets and outlets only from one part of the body to another; like the doors within the houſe, which according

ing to their ſhutting or opening are ſtops or paſſages from one room of the houſe to another. Theſe may be ſaid to be double doors, becauſe they relate to two parts, to that which is before, and to that which is behind; they let out of that, and into this; and of this ſort there are very many in the body of man, and ſome, I perſuade myſelf, that are not yet ſufficiently diſcovered. The firſt that the matter of nouriſhment meets with after it is chewed in the mouth, is the *pharynx*, or head of the *œſophagus*, which, while it is kept cloſe, keeps the meat in the mouth, till it be there ſufficiently ground; and afterward by the retraction of the muſcle of the throat, which for this very reaſon is called *ſphincter gulæ*, it is committed into the throat, which is the high way to the ſtomach; but before it can come there, it meets again with another door, which is called the mouth, or *ſuperior orifice of the ſtomach*, which unleſs it be opened alſo, it cannot paſs. And this any man may perceive in himſelf in a morning, or after the mouth of the ſtomach hath been long and cloſe ſhut, if he haſtily ſwallow down ſolid food before he drink, it makes a ſtop there, and ſtands knocking as it were, with pain waiting for admittance. The third door that the chyle meets withal, is the paſſage out of the ſtomach into the guts, and this is the *inferior orifice of the ſtomach*; which is ſo wonderfully framed, that it gives eaſy admittance for the chyle

chyle from the ſtomach to the guts, but back again from them to this, very difficult, or none at all; and it hath a power of dilating or contracting itſelf, making way, or ſtopping it, according as the neceſſity of nature requireth; from whence it is by anatomiſts called *pylorus*, which is a *Greek* word, as moſt of the anatomical terms are, and is derived from πύλη, *porta*, and οὐρέω, *curam gero*: and is as much as *Janitor*, the porter or door-keeper; and it doth faithfully, according to the dictates of nature, ſhut or open that paſſage unto which it appertains. Beſides theſe three, there are many others which I ſhall only generally name; the *capillaries* of all the containing veſſels in the body, the ſeveral ſtops of all the veins and arteries, which are called *valvulæ*, eſpecially thoſe eminent ones about the heart, of which more hereafter, the poroſity of all the inward parts of the body, the *valvula coli*, the *annulus fibroſus* of the bladder of gall, the ſeveral heads of the *ureters*, their wonderful inſertion into the bladder, theſe, and whatſoever elſe in the body of man can by their conſtriction ſtop that which comes unto them, and by their dilatation give it convenient paſſage, are in this place called, the *doors of the ſtreets*.

The ſtreets are thoſe open ways and paſſages in the body of man, which the matter of nouriſhment paſſeth along without lett or moleſtation. *Thou ſhalt make thy ſelf ſtreets in*

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Damaſcus, ſaith *Benhadad* to *Ahab*, 1 Kings xx. 34. that is, thou ſhalt paſs through *Damaſcus* at thy pleaſure, without interruption; there ſhall always be a broad and an open way. *Platea dicitur à* πλάτις, *latus*; and in this place is, as much as, *latitudo ſpatioſa patens & aperta*: And of ſuch there are divers found in our body; the *œſophagus*, or gullet; the ſix ſeveral inteſtines or guts, as uſually they are divided by anatomiſts; the milky veſſels of one ſort and of another; all the veins and arteries; the nerves and lymphæducts; the *ductus choledochi*, *pancreaticus*, *ſalivalis*; the *vaſa præparantia & deferentia*, *tubuli lactiferi*; the *ureters* & the *urethra*, in a word, all the *communes ductus*, or open paſſages which are by nature appointed for the conveyance either of the aliment or excrements, are the ſtreets here intended; for aſmuch as they have reference to the grinding before mentioned, and are the common roads or highways to, and from, the places where the grinding is performed.

What remains now, but only that I briefly name unto you thoſe ſymptoms of age which are ſignified unto us by this clauſe, *The doors ſhall be ſhut in the ſtreets*. What the doors are you have abundantly heard, the ſhutting of them is nothing elſe but their ceaſing from their uſe, or their not being exerciſed to that end unto which by nature they are appointed; when by reaſon of the extremity of age the voice

of

of the grindings is very low, then ſhall the doors, all the doors, both the doors, the doors of both kinds, the double doors, ſhall be ſhut in the ſtreets; they ſhall all have loſt their opening faculty, ſo that they ſhall neither let in, nor let paſs, nor let out, what they ought to do, as they formerly did, ſo long as the ſtrength of man remained, and the voice of the grinding was high. *Occluſio labiorum cantra cibum; obſtratio pharyngis, utriuſque orificii ventriculi; deglutiendi difficultas, impotentia reſtrandi in omnibus, arteriarum & venarum, imo omnium internorum partium oſtiis, & valvulis; horrorum conſtrictio; dyſuria, ſtranguria, iſchuria; alvi adſtrictio, ſeu potius pigra tardaque depoſitio.* Theſe and the like ſymptoms that ariſe from the inability of thoſe parts that have in themſelves a power of opening and ſhutting for the benefit of the body, are hereby indicated unto us. And thus far of the natural faculty of man, both in reference to the preſervation of the individual, and the propagation of the ſpecies; from which ſhort obſervations they that are better ſkilled in the hidden myſtery of the frame of man's body, and know all the wonderful alterations that are therein made, may eaſily attain the knowledge of the full ſcope and intention of the wiſe man in this place.

He ſhall riſe up at the voice of the bird.

This expreſſion being in itſelf eaſier than the reſt, and having been well underſtood by moſt that have conſidered this allegory, I ſhall not much inſiſt upon it, I ſhall only tell you, that it is to be underſtood of thoſe infirmities of age, whereby men are altogether unable to take that content and quietneſs, that ſleep and nocturnal repoſe, which formerly they had uſed to be refreſhed with; there are that earneſtly contend to have the latter part tranſlated, *ad vocem paſſeris*; others would have it, *ad gallicantum*; others are content with, *ad vocem volucris*. For my own part I think it not worth the diſpute what this bird is in particular: The general word pleaſeth me beſt, and the original word, *omnem ſignificat avem mane ſurgentem ad garriendum*; For the radix is צפר and hath two eminent ſignifications, one is, *alas habere ſive evolare*; and the other, *maturare ſive mane ſurgere*; and that which elſewhere is tranſlated the *early morning*, Ezek. vii. 10. is from the ſame root with this word in the text, ſo that if we ſay, the early bird, or the bird that is warbling its accuſtomed note betime in the morning (without deſcending to particulars) we ſhall take in the whole latitude of the ſignification of the word, and the full ſcope of this part of the deſcription of age; which is nothing elſe but to

ſhew

ſhew how reſtleſs, and wakeful men are in their old age; ſo that that which is ſaid of the abundance of the rich man, may as truly be ſaid of the infirmity of the old man, *it will not ſuffer him to ſleep*, Eccl. v. 12. In the night time poſſibly he may have ſome unquiet drowſings, but when the morning approacheth, that time wherein man, in his perfect ſtate, taketh the greateſt refreſhment, and the ſoundeſt ſleep; then ſhall he be broad awake, and riſing up; *He ſhall riſe up at the voice of the bird*; that is, at that time when they utter their voices; not (as ſome have interpreted it) *causâ vocis avicule*, by reaſon of the voice of any bird, as the crowing of the cock, or the like, as if the voices of them ſhould wake them from their ſleep; for it is not ſaid, he ſhall *wake* at the voice of the bird, but he ſhall *riſe* at the voice of the bird, preſuppoſing his being awake long before, it may be all the night: Beſide the enſuing words, as you ſhall immediately hear, do demonſtrate the deafneſs of old men, and therefore it is not to be thought that they ſhould eaſily be ſtartled, as it were, and awaked at the voice of any bird; therefore it muſt of neceſſity be underſtood, as it is elſewhere phraſed, *At the time when the ſinging of the birds is come*, Cant. ii. 12. Now the time of the finging of the birds may be ſaid to come *annually*, or *diurnally*. The *yearly* coming of the finging of the birds is in

the ſpring of the year; to which alluſion is had in that place of *Solomon's* Song: And the *daily* coming of the ſinging of the birds is in the ſpring of the day, or very early in the morning; by which time the decrepit old man is very weary of his bed, having in it neither eaſe, nor ſleep. The ſinging of the birds, and the ſighing of old men, are early contemporaries: Theſe are as ſoon weary of their lodgings, through the pains and wakefulneſs, that hath attended them in the night ſeaſon; as they are lifting up their pleaſant notes, after their refreſhment. Anxiety and trouble of mind, was ſo grievous to *Ahaſuerus*, that it is ſaid, *On that night could not the king ſleep*, Heſt. vi. 1. Upon the ſame occaſion it is ſaid concerning *Darius*, *His ſleep went from him*, Dan. vi. 18. Pains and diſeaſes of the body, were ſo troubleſome to *Job*, that he complains, *When I lie down I ſay, when ſhall I ariſe, and the night be gone, and I am full of toſſings to and fro, until the dawning of the day*, Job vii. 4. both theſe joined together in Age, together with that which is worſe, namely, the natural dryneſs of the brain, and a conſumption of thoſe benign vapours that overcome it in ſleep; muſt needs produce the like, or more uncomfortable effects. So that the ſymptoms hereby indicated unto us are, *anxietates animi*, *inquietudines nocturnæ*, & *dolores corporis*; and principally the product of them both, which is *vigiliæ*.

I ſhould thus paſs hence-from, were there not a grand objection lying hid in the body of this diſcourſe, which upon this occaſion doth more apparently diſcover its face. It may be here ſaid, are there not ſome contrarieties in this deſcription of age, or at leaſt in this interpretation of it? Are there not ſome inconſiſtent ſymptoms reckoned up, to make this miſerable ſtate yet far worſe than it is? Were not *carus* and *apoplexia*, diſeaſes of over-much ſleep, in the expoſition of the ſecond verſe numbred among the ſymptoms of age: How therefore comes it to paſs that *vigiliæ*, or over-much wakefulneſs, can be an attendant upon the ſame condition?

To this I muſt anſwer, Were this our fault, it were not ours alone; for ſo clear is the caſe, and the truth of it by daily experience ſo apparent, that whoſoever hath at any time treated of the diſeaſes of age hath conſtantly enumerated them both, as being not the leaſt inconſiſtent one with another; and that is, becauſe they are not of the ſame kind; *neceſſe eſt ut oppoſita ſint ſub eodem genere**. Now ſleep, and the abſtinence from it, may each of them be conſidered either *in genere naturali*, or *in genere præternaturali*; there is a natural, there is a diſeaſed or preternatural ſleep. And between theſe there is a vaſt difference. *Natural*

* *Hippo.* l. 3. Apho. ult. *Galen* l. 3. c. 6. de ſanitate tuenda. *Ranchin.* De morborum ſenum driis.

tural ſleep is a wooing of the body and mind to quietneſs, whereby the benign vapours, by their amicable embraces of the brain, get power of it, for its refreſhment: *Preternatural ſleep* is a committing a rape upon the body and mind, whereby the offenſive ſuperfluities, by their violent aſſaults, force the brain to a benummedneſs for its deſtruction; the ſame diametrical difference there is between natural and preternatural wakefulneſs. *Natural waking* is when the brain, by its own vigour and ſtrength, doth, *Samſon* like, ariſe and ſhake itſelf, *Judg.* xvi. 20. caſting off all thoſe exhalations which, having ſpent their vertue for the refreſhment of the body, are become altogether uſeleſs; ſo that hence-from all the ſpirits of a man are enlivened, *As a bridegroom coming out of his chamber, and rejoicing as a ſtrong man to run a race*, Pſ. xix. 5. but when the race is run, and the ſpirits are thereby tired, there is need of a recruit by ſleep. So then, when there is in the nature of man a paucity of thoſe pleaſant vapours, and an ineptitude in the brain to receive thoſe few that are, there muſt needs follow natural watching or wakefulneſs. *Preternatural waking* and watching, on the contrary, are, when there is an external force put upon the brain, either to raiſe it from ſleep, or to keep it ſo. Now, to apply this diſtinction, we muſt know that ſleep and the want thereof are directly contrary one to another, ſuppoſed always they be

in

in the ſame kind. Preternatural ſleep, preternatural watching, are altogether inc ſiſtent; and therefore an *apoplexy*, and a *fre* are in no wiſe incident to the ſame perſo the ſame time: So alſo natural ſleep and tural watching are inconſiſtent one with a ther, and not competible to the ſame age; are to be found in man at as great a diſtanc his life will give way for; *Senibus naturali vigilare, pueris dormire*; but when they are of one kind, and another of another, man preternatural ſleep, and natural watching, t may both of them without any incongruit all, be reckoned up as the ſymptoms of age.

I make the more of this diſtinction, (tho very common and ordinary) and ſo I wi have others do too, becauſe of its univerſal upon this occaſion; for not only here, bu moſt of the other deſcriptions of age, it h its place for the deciſion of controverſies; the very laſt deſcription, *pigra & tarda depoſitio* was numbred as a ſymptom of age, cauſe the *ſphincter ani* is hardly and ſeldom tracted for the natural evacuation of the exc ments of that kind; yet *alvi humiditates* * reckoned as an attendant on the ſame ſtate, cauſe without any opening of the door, th is a preternatural flux that way. So alſo their urine, there is a continual ſtopping, a

* *Hipp.* l. 3. Apho. ult.

yet withal a continual dropping. The teeth are relaxed by reaſon of drineſs, and yet moiſture expels them their ſockets. Siccity of the eyes is their chiefeſt diſeaſe, and yet they run with a continual rheum; hardneſs and drineſs alſo is the temper of the brain, and yet it is always diſtilling *coryza's* and *catarrhs*. In a word, this diſtinction will be found of moſt general uſe, foraſmuch as there is ſuch an intricate mixture of naturality and preternaturality in age, ſo that that plain and eaſy deſcription which is uſually given of it, ſeems to me ingenious and moſt ſignificant. *Senectus eſt morbus naturalis.*

All the daughters of muſick ſhall be brought low.

The organs that have reference to muſick in the body of man (beſide which I would by no means ſeek an interpretation) are of two ſorts. They are either ſuch as make muſick themſelves, or ſuch as take and receive the muſick that is by others made; the firſt of theſe I call, *the active daughters of muſick*, foraſmuch as they are themſelves muſical, and every one of them bear their part in making of it; the other I call, *the paſſive daughters of muſick*, foraſmuch as they only receive it, taking delight in that, of which they have not the leaſt ſhare in making.

The *Chaldee* paraphraſe hath reference to the firſt of theſe, when it ſaith, *remittentur labia*

tua

tua à dicendo cantico. The lips, and whatſoever other parts in man, are any way inſtrumental unto ſinging, may be very well ſignified unto us by the *cantatrices mulieres*, or female choriſters in the text; and theſe are very many in our bodies. For beſide thoſe remote helpers, the *thorax*, the *diaphragma*, the *muſcles*, the *nerves*, the *glandules*, &c. There are three ſeveral kinds of organs, that do more immediately, and yet diſtinctly and gradually conduce to the production of vocal muſick. The firſt, are thoſe that prepare and adminſter the matter for a ſound; the ſecond, are thoſe that form that ſound into a voice; the third, are thoſe that modulate that voice unto muſick.

The firſt of theſe, are none other than the *lungs*, which are the proper inſtruments of our breathing; which how excellent it is in itſelf, and how neceſſary to our being, the ſcriptures of God do demonſtrate without compare, *Gen.* ii. 7. Job xii. 10. The life of man in this world, runs parallel with his breath, *Pſal.* civ. 29. *All the while my breath is in me, and the ſpirit of God is in my noſtrils*, Job xxvii. 3. and the death of man is ſtill ſignified by the departure of his breath; it is ſaid of the widow's child, *He had no more breath left in him*, 1 Kings xvii. 17. Pſal. cxlvi. 4. Plainly throughout the whole word of God, breath and life, and ſoul and ſpirit, are ſynonymous, and often made exegetical one of another. Among other excellencies

of

if breathing, that whereby it is made inſtrumental to ſpeech and harmony is not the leaſt; in all wind muſick, there muſt be firſt a gathering of the air into ſome cavity to contain it, and afterward a preſſing of it forth into thoſe pipes or holes, that are artificially made for the dividing it unto its appointed end; now of this kind of muſick is the voice, and the lungs being of a light, ſoft, ſpongy ſubſtance, are thoſe parts, that do both draw in, contain, and preſs forth the air, the matter of the voice, according as there is occaſion. And thoſe creatures that have no lungs have conſequently no voice; ſo that fiſhes, which are herein deficient, are mute even to a proverb. And man himſelf, if by reaſon of any preternatural matter ſtuffing the lungs, or by reaſon of any violent motion, or long expiration, he becomes out of breath, he is not able to ſpeak, much leſs to ſing, till he have recovered it again.

The ſecond ſort of organs that conduce to muſick, are ſuch, as form the breath into a voice; and they by *logicians*, under whoſe ſubject they do directly fall, are accounted nine, numbred up in this following diſtich:

Inſtrumenta novem, ſunt guttur, lingua, palatum,
*Quatuor & dentes, ac duo labra ſimul.**

And moreover, hence it is that the wiſeſt of *grammarians*, obſerving that the ſeveral words, by

* *Smith* aditus ad Log. l. c. 2.

by which man uttereth his voice, are formed againſt theſe ſeveral parts, ſometime more againſt one, ſometime more againſt another; have aptly divided their letters, the firſt compounding parts of words, into *gutturales*, *linguales*, *palatinas*, *dentales*, & *labiales*, according as in their pronunciation they bear themſelves the hardeſt againſt either of thoſe parts.

That part which theſe two artiſts have called *guttur*, anatomiſts do more ſtrictly and properly call, *trachæa ſive aſpera arteria*; and ſince the word artery is derived ἀπὸ τῦ τὸν ἀέρα τηρεῖν, this of all the parts of the body may primarily and moſt aptly bear that name: for this is the great conduit-pipe of air in reſpiration; it gives paſs unto it in *inſpiration*, and and in *expiration* (whereby the voice is framed) it gives a certain impreſſion, which is the firſt alteration of it towards articulation; which impreſſion doth remain in the voice when perfected; ſo that if theſe parts do firſt diſpoſe the voice to hoarſneſs or ſhrilneſs, or any other preternatural tone, the whole ſpeech hath a tincture of the ſame imperfection. And hence it is, that the *Welch* pronunciation being performed by too hard a colliſion of the air againſt theſe parts, makes all their letters and words to become *guttural*.

The ſecond inſtrument of the voice is *the tongue*, and this, by reaſon of its fungous ſubſtance, and volubility, is ſo meet, and ſo principal

principal an agent therein, that ſpeech itſelf, and all the variety thereof, doth among all ſorts of men go by the name of *tongue*; *There were in the days of the apoſtles dwelling at Jeruſalem devout men out of every nation under heaven*, Acts ii. 5. *and they all ſaid, we do hear them ſpeak*, ταῖς ἡμετέραις γλώτσαις, *in our own tongues, the wonderful works of God*, ver. 11. And this great miracle, both as unto hearing, and alſo unto ſpeaking, is introduced by the appearance of cloven tongues, *ver.* 3. to ſhew that the chiefeſt inſtrument of the voice was to be acted by the Holy Ghoſt; *For they began to ſpeak with other tongues as the Spirit gave them utterance*, ver. 4. Among the many expreſſions that the word of God abounds with, for the confirmation of this truth, I cannot but take ſpecial notice of that of *David*, where he ſaith, *There is not a word in my tongue, but thou knoweſt it altogether*, Pſal. cxxxix. 4. As if that member alone kept the power of words within itſelf, and ordered them all according to its own pleaſure; and where there is an inability of ſpeaking, it is aptly ſaid, ſuch perſons are tongue-tied, and when that faculty is again reſtored, it is ſaid, *the tongue is looſed*, Mat. vii. 35. and ſo was it with *Zacharias*, concerning whom, after he had been dumb for a ſeaſon, it is ſaid, *his mouth was opened immediately, and his tongue looſed, and he ſpake and praiſed God*, Luke i. 64.

The third inſtrument towards the formation of the voice is *the palate of the mouth*, for beſide, that ſome particular letters and words are formed more immediately againſt this part, it doth alſo give ſtrength and clearneſs to the whole voice, and to all the words that are pronounced in the mouth. And this it doth the better do, becauſe the tenuous bone that makes the palate, is an arched roof, covered over with a nervous ſkin, corrugated with ſeveral aſperities, for the better retaining and rebounding the air in the voice. And all our places dedicated to Divine Service, are made of the ſame concamerated form on the top of them, (queſtionleſs in imitation hereof) for the better ſounding and echoing forth both of vocal and inſtrumental muſick. And beſide the bone which conſtitutes the palate, there is a little fleſhy part, which is called the *uvula*, that doth ſo much contribute to the voice, that it deſervedly retains the name of *plectrum vocis* *. That the palate or roof of the mouth is a great inſtrument in ſpeaking, is ſufficiently proved by the defect thereof, for if there be the leaſt fault in this part, there preſently ſucceeds a faltering in the ſpeech. So that a man may ſay to any ſon of *Venus*, who hath followed her deſtructive enticements to this imperfection, *Thou alſo art one of them, thy ſpeech bewrayeth thee.* This part, together with that laſt mentioned,

* *Paulus Ægineta*, l. 6. c. 51.

tioned, is taken notice of, as ſerviceable unto ſpeech, by *Job*, when he ſaith, *The nobles held their peace, and their tongue cleaved to the roof of their mouth*, Job xxix. 10. And God himſelf ſaith unto the Prophet, *I will make thy tongue cleave to the roof of thy mouth that thou ſhalt be dumb*, Ezek. iii. 26.

Fourthly, *The teeth*, and eſpecially the four fore-teeth, are very inſtrumental to our ſpeech; *dentition* and *locution* are for the moſt part contemporaries; toothing and ſpeaking uſually come, and go together; the child cannot ſpeak till he put forth his teeth, neither can he ſpeak well, when he ſheds them, nor leave his liſping till they come again. And the reaſon of it is, becauſe there are many words that are pronounced by the dilatation of the tip of the tongue, and clapping of it againſt the teeth, which any man may eaſily experiment in himſelf, if he will but gently aſſay to pronounce any word that hath *th* together in it; and all thoſe operators that live by ſetting in of artificial teeth, do obſerve that they have more come to them upon the account of their ſpeech, than for all other ends whatſoever; and indeed this ingenious help of art, doth in no other defect of nature make ſuch compleat reparation.

The laſt inſtruments of the voice are *the lips*; even as the *aſpera arteria* (as was ſaid) gave the firſt articulation, ſo theſe do give the ultimate completion to our words; ſo that when they

have once ſlipped this guard, we can have no more power over them. *Neſcit vox miſſa, reverti: that which is gone out of thy lips thou ſhalt perform*, ſaith the Lord, *Deut.* xxiii. 23. How exceedingly inſtrumental the lips are to ſpeaking, the ſcripture doth abundantly prove, *He that will love life, and ſee good days, let him refrain his tongue from evil, and his lips that they ſpeak no guile*, 1 Pet. iii. 10. Hence is it, that as the *words* are, ſo the *lips* are often ſaid to be: therefore we read of *flattering, feigned, lying, uncleane, ſtammering lips*, &c. Pſal. xii. 2; xvii. 1; xxxi. 18; *Iſa.* vi. 5; xxviii. 11. And again, words are elſewhere called, the fruit of the lips; *Let us offer the ſacrifice of praiſe to God, that is the fruit of the lips*, Heb. xiii. 15, Iſa. lvii. 19. And theſe are the ſecond ſort of organs that conduce to vocal muſick, namely, thoſe that form the ſound unto a voice.

The third are thoſe that modulate this voice into muſick; and although it here muſt always be acknowledged, that every one of the parts before mentioned do alſo contribute ſomething towards modulation; yet the more proper and peculiar inſtruments thereof are the cartilaginous parts of the *aſpera arteria*, or the windpipe; and eſpecially thoſe which are termed, *the larynx* and the *glottis*. The *larynx* is the head of the windpipe, which although it be but a very little part, yet doth conſiſt of more variety of compounding parts, than any other whatſoever;

as

little as it is, it hath thirteen muſcles belong-
g unto it, moſt of which are framed only for
e modulation of the voice; ſome ſhut the pipe,
ne open it, ſome dilate, ſome contract it; ſo
at acting ſeverally, or jointly according as
ere is occaſion, they do wonderfully conduce
the variation of the tone. It hath moreover
e cartilages, whoſe ſubſtance and conſiſtence
moſt apt of all other whatſoever, for the di-
ding of a ſound; ſome of them are moveable,
ne immoveable, ſome of one form, ſome of
other, that they may the better contain the
; and alter and break the voice into melody.
ſide it hath certain glandules belonging unto
which by their viſcous moiſture do ſo irri-
te, and as it were oil the pipe, that it takes
f the harſhneſs that otherwiſe would be found,
d adds much ſweetneſs and pleaſantneſs to the
uſick. The *glottis* is reckoned among the
rtilages before mentioned, yet becauſe it is
e principal inſtrument of modulation, we
nnot but take moſt ſpecial notice of it. And
therefore bears its name, becauſe what emi-
ncy the tongue hath above the reſt in refe-
nce to our ſpeech, the ſame hath this part in
erence to our ſinging; for the air being preſ-
l forth from the lungs, this part riſeth up to
eet it, embraceth it, plays with it, and by
certain innate property of its own, without
e help of muſcles, alters it, divides it, at its
n pleaſure, into all that diverſity of amplifi-

cations and flouriſhes, that the art of man can poſſibly reach unto. If a man make a pipe in the middle of a green reed, and leave the inward thin film as the tongue of the pipe, and then breathe againſt it; he ſhall then find, that tongue to receive the breath, and ſo to modulate it, that it ſhall be a lively, though but a ſhort reſemblance of what we are now ſpeaking of. And indeed whatſoever art can do, muſt give way to the works of nature: And that one pipe in man, which hath the wiſdom of God for its formation to the intent of muſick, can amplify and divide a ſound, to as much variety of muſical accents, as *David*'s inſtrument that had ten ſtrings, *Pſal.* cxliv. 9. For there is no inſtrument howſoever formed, that can ſurpaſs the muſick of the voice, which is performed by the ſeveral organs we have here recited, which may therefore juſtly be called, the active daughters of muſick.

The paſſive daughters of muſick are thoſe which only receive the muſick that is by others made; and theſe are the organs of hearing; which indeed may moſt properly be called, *filiæ carminis*, or *filiæ cantici*, and ſeem primarily to be intended in this place; for as a learned commentator * rendereth the reaſon of it exceeding well; *aures ad hoc unum factæ ſunt, ut voces & carmina audiant, quare ex iis natæ, eorumque filiæ eſſe videntur.* And again, *objectum*

* Cornel. à Lap.

lectabile efficit in auribus ſenſationem delecta-
, quare ejus quaſi parens, & mater eſſe
ur. All the ſeveral graces and elegances
nuſick, the ſoft and ſilky touches, the
ς and pleaſant reliſhes, the nimble tranſi-
ı, and delicate cloſes, are far more exactly
ſented in the inſtruments of hearing, than
image of the mother is in the daughter;
rem ſequitur partus, the birth is like the
' that bears it, but the muſick that is heard,
en the ſame with that which is made: For
ε is a continuation of the audible ſpecies from
maker of them, to the laſt receiver; with-
any production of new. And that this
be the better done, there are ſeveral parts,
ı for the apprehending of the variety of
ıds, as they paſs up and down in the air,
alſo for the commodious conveying of
n, that they may make a due impreſſion
n the proper organs of hearing; plainly,
e is the outward and the inward ear.

The outward ear is ſpread abroad like a net,
; it may catch and gather into itſelf that *vo-*
m, or *ſonantem undam* *, as it rolls about the
ın of the air; which that it may the more
veniently do, the cartilaginous part of it
ivided into two winding chanels, called the
ces, or *elices*, which draw and ſuck into
mſelves the wave before mentioned, and paſs
ıto the auditory gulph. I know the word

* *Avicen.*

helices is moſtly wrote with an *H*, and then it muſt be derived from ἑιλέω *cum aſpero*, which ſignifieth *involvo*, *circumago*, *circumvolvo*. And thus primarily the word ſignifieth a certain ſort of twining ivy, and from thence then muſt the metaphor be fetched, and that very appoſitely, relating to their form: But I rather incline to thoſe who write it without an *H*, and then it muſt be derived from ἑιλέω *cum tenui*, which ſignifieth, *coarcto*, *cogo*, *in anguſtum redigo*, *in arctum congrego*; and thus the word ſignifieth primarily, little chanels that are made to draw the water from ſome great and broad overflowing, *fulci aquarii*, water furrows or trenches to draw in the ſtream; and this relates to their uſe. And thus it is an elegant metaphor from waters; for theſe parts do *elicere*, allure and ſuck into their narrower chanels thoſe ſounds that wander more at liberty in the open air; and then they convey them to the *meatus auditorius*, which is ſufficiently defended by the *tragus* that is over it, and the *antitragus*, that is near it, ſo that no violent noiſe can offend it, nor any preternatural matter fall into it, to obſtruct it. This outward ear is placed upon the *os petroſum*, on the ſide of the head, and at ſome diſtance from the head, and were it not preſſed and bound down while it was tender, it would ſtand at a farther diſtance, and conſequently more commodiouſly for hearing; ſo that while our mothers and nurſes ſtudy ornament, they injure

injure us: Indeed, they do hereby make us more unlike to the beaſts, but it is in ſuch an excellency, that it were well for us if we ſurpaſſed them. And hence may the reaſon be given, why thoſe that are thick of hearing may find great benefit by laying their hand dilated behind their ear, or uſing ſome *otacouſticon*, and placing the mouth of it towards the ſound, that they may thereby the better apprehend it; like unto thoſe animals, that, liſtning after any noiſe, prick up their ears, as we ſay, and caſt them forward, for the more expeditious receiving thoſe motions of the air, that otherwiſe would paſs by them more inſenſibly.

The inward ear is a great ſecret, and ſuch an one, that while the men of greateſt knowledge have gone about to find out and deſcribe it, they have every one of them ſunk under his burden, and confeſs'd his own inability in ſome ſuch expreſſion as the Pſalmiſt concerning the general frame of man's body; *Such knowledge is too wonderful for me, it is high, I cannot attain unto it*, Pſ. cxxxix. 6. The firſt part we meet with is a thin, ſtrong, pellucid membrane, called, the *tympanum*, which being placed tranſverſe the hole of the ear, doth divide between the outward and the inward ear, as the diaphragm doth between the breaſt and the belly; within this there are three cavities, the *concha*, *labyrinthus*, *cochlea*; there are

alſo three little bones, the *malleolus*, the *incus*, and the *ſtapes*; moreover, there is implanted in the ear, a pure, ſubtil, and quiet air, which is called *aer innatus*; and laſtly, and chiefly, becauſe the proper organ of hearing, we may obſerve the filaments, or the utmoſt extremities of the ſofter part of the auditory nerve, as they are wonderfully diſpoſed in the inward cavity by the innate air; and then the whole nerve itſelf; by the help of theſe ſeveral parts our hearing is thus performed. The motion of the air (as that of the water) is continued by certain circles and rings, till it be taken by the outward ear, and by the *elices* is conveyed upon the head of the *tympanum*, where it makes the very ſame impreſſion that it received from the body that made it; which impreſſion, by reaſon of the conjunction of the bones before mentioned, is continued unto the innate air, which, becauſe in itſelf moſt quiet and ſtill, is eaſily moved according to the motion of the *tympanum*; ſo that the filaments hereunto annexed muſt of neceſſity anſwer the foreſaid motion, and ſo conſequently gather into themſelves the ſound or muſick, which they convey to the auditory nerve, that from thence it may be ſent to be diſcerned and judged in the inward ſenſe.

Theſe are the daughters of muſick, which, ſo long as man abides in ſtrength, are exceeding lovely, and flouriſh; but as he declines

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in age, theſe alſo paſs their flower, they become humbled, and decline a pace towards uſeleſſneſs and deformity.

In age the ſeveral holes and cavities of the ears are ſtopped, the drum is unbraced, the hammer is weakened, the anvil is worn, the ſtirrop is broken, and the inward air is mixed and defiled; the filaments are dulled, the nerve itſelf is obſtructed; ſo that there cannot but follow heavineſs of hearing, and at laſt deafneſs itſelf. And this is that imperfection which *Barzillai* complains of to King *David*, *I am this day eighty years old, and can I diſcern between good and evil? Can I hear any more the voice of ſinging men, and ſinging women, wherefore then ſhould thy ſervant be yet a burden to my lord the King?* 2 Sam. xix. 35. And this certainly is the principal ſymptom here intended by theſe words, *The daughters of muſick ſhall be brought low.* And therefore the vulgar *Latin* tranſlates it only, *obſurdeſcent omnes filiæ carminis*; but the word שחו is of a far larger ſignification, and might be tranſlated many ways, as *deprimentur*, *dejicientur*, *incurvabuntur*; but cannot poſſibly be better tranſlated than it is already by the Seventy, ταπεινωθήσονται, *humiliabuntur*, *brought low.* And this ſtill holds out the native latitude of the word; which I would by all means have preſerved; that all the daughters of muſick, both active and paſſive, and their infirmities in age may be here

included; ſo that all thoſe ſymptoms of the decrepit ſtate of man, that belong to any of the organs before mentioned, whether of ſpeaking or hearing, are to be underſtood by this laſt clauſe; *All the daughters of muſick ſhall be brought low*; and ſuch are theſe that follow: *Dyſpnœa ſive ſpirandi difficultas, deſtillationes tuſſim inferentes*; διαυδία ἀφωνία, *ſive vocis abolitio, diminutio aut depravatio*; *exſiccatio aſperæ arteriæ, induratio cartilaginum laryngis, ſordes aurium, præcipuè autem baryœoia ſive gravis auditus & ſurditas.*

VERSE 5.

Alſo when they ſhall be afraid of that which is high, and fears ſhall be in the way, and the almond-tree ſhall flouriſh, and the graſhopper ſhall be a burthen, and deſire ſhall fail; becauſe man goeth to his long home, and the mourners go about the ſtreets.

HItherto age hath been deſcribed unto us as it hath influence upon all the functions and faculties of a man; ſuperior and inferior; inward and outward; animal, vital and natural. And the preacher hath exactly declared unto us, how far they are all weakened in this declining ſtate; he now in this verſe paſſeth to another head of ſymptoms, which is uſually called, *qualitates mutatæ*, taking notice of the ſimple affects, and thoſe eminent and

moſt remarkable alterations that attend men in this condition. And here again he doth moſt elegantly run over all the parts of man, and give only one moſt ſignificant alteration in each of them. The compounding parts of man (as all men know, and as we have already heard) are the ſoul and the body. The principal affect of the mind in Age is that of fear, which is here expreſſed in reſpect of a double object, a greater and a leſſer; which conſequently makes the paſſion leſſer or greater, according to the encreaſe of age; *They ſhall be afraid of that which is high, and fears ſhall be in the way.* The parts of the body are either inanimate, or animate: of the inanimate parts, the hair receiveth the greateſt alteration in age, which is here ſignified in theſe words: *The almond tree ſhall flouriſh.* The animate parts of the body, are alſo of two ſorts, either the hard, and cruſty parts, or the ſoft and ſpongy parts; and theſe two are uſually known by the names of the ſpermatical and ſanguineous parts. The change of the former of theſe in age is intimated unto us in thoſe words: *The graſhopper ſhall be a burden*; the change of the latter in thoſe, *deſire ſhall fail*; as it followeth more clearly hereafter. After this moſt myſterious and hieroglyphical deſcription of the ſymptoms of age, he doth in a plain and eaſy tranſition paſs from theſe general ſymptoms that attend a man all along this

ſtate

ſtate of weakneſs, unto thoſe particular ones, that do more immediately forerun his diſſolution: *For man goeth to his long home, and the mourners go about the ſtreets.*

They ſhall be afraid of that which is high, and fears ſhall be in the way.

The powers and faculties of the mind, as they are weakened in age, are abundantly deſcribed in the ſecond verſe: In theſe words is notified unto us, that moſt remarkable change that is made upon the affects and paſſions of the mind in the ſame condition. And this is only in reſpect of fear, and thoſe that are nearly related unto it. For as for thoſe which are placed, ἐν τῷ ἐπιθυμητικῷ, *in appetitu concupiſcente*, ſuch as love, hatred, deſire, joy, and the like; they are in no wiſe exceſſive in this weak ſtate of age, foraſmuch as a firm and a vigorous habit of body, quick and lively ſenſes, both outward and inward, do moſt promote them; ſo that where there is a general defect in both theſe, and all deſire doth fail, it is not to be ſuppoſed, there ſhould be any predominancy of any of thoſe paſſions, that proceed from the concupiſcible appetite; as for thoſe which are placed, ἐν τῷ θυμικῷ *in appetitu iraſcente*; they all have for their object either good or evil; thoſe which have good for their object, as hope, and ſuch like, have little or no place in the time of age, foraſmuch

aſmuch as it is an evil time, and there is no pleaſure in it. Now all imminent evil is looked upon either as vincible, or invincible; if a man look upon an approaching evil, as that which he is able to overcome, it naturally produceth boldneſs in him, which is the contrary paſſion to fear, and can in no reſpect agree to the ſame perſons. It remains therefore, that that diſtreſs of the mind, which ariſeth from the apprehenſion of ſome approaching evil, that is either deſtructive or burdenſome to our nature, and not eaſily reſiſtible by our ſtrength, is the paſſion that is moſt incident to age. True it is, that anger and vexation, grief and ſadneſs, and ſuch like, as have for their object ſome preſent evil, and border hard upon this we are ſpeaking of, may in ſome meaſure be found in age; yet the true and proper, the moſt notorious trouble of the mind, is that dumpiſh, melancholy, deſtructive paſſion of *fear*; which together with all its attendants and neceſſary conſequences, ſuch as ſuſpicion, jealouſies, ſuperſtition, diſlike, inconſtancy, betraying the ſuccours of reaſon, are too familiarly obſerved in the beſt of men that are crooked with age; and by how much the more man declines, by ſo much the more do theſe ſuperfluities encreaſe, like miſletoe, and ſome other excreſcencies of trees, that flouriſh not, till the ſtock decay from which they ſpring. And the reaſon of it

it is, becauſe the true cauſes of this affection (namely, miſapprehenſions of the things feared, and inability to reſiſt them) are encreaſed together with age, and therefore muſt needs produce their anſwerable effects. The firſt of theſe cauſes proceeds from the weakneſs of the imagination; the other, from the lowneſs of the ſpirits, and imbecillity of the outward organs: The firſt makes the cauſe of fear to ſeem the greater; the other, to take the deeper impreſſion. Imagination puts a double fallacy upon ancient men; firſt, it makes them undervalue themſelves, and minorate their own abilities; and then it makes them overvalue the objects of fear, and make them far greater than they are; like ſome perſpective glaſſes, that at both ends miſrepreſent the things ſeen, yet with a contrary appearance, at one end making them appear leſſer, and at a farther diſtance; and at the other end, greater and nearer than they ought. And hence it is, that they are ſo timorous upon every the leaſt occaſion; that which is ſaid of wicked men may alſo be ſaid of old men; *They are in great fear where no fear is*; Pſal. liii. 5. *quæ finxêre, timent*; the weakened imagination creating objects of fear unto itſelf, or at leaſt much falſifying them, and encreaſing them like the man in the goſpel, that had but an half and a broken ſight, *He ſaw men as big as trees walking*. Again, the dulneſs and heavineſs

vineſs of the ſpirits, and the impotency of the members, render a man moſt obnoxious unto fear; the ſpirits being of a ſtrong, quick, and ſubtile motion, are the principal inſtruments of intercourſe between the ſoul and the body, and do conſequently bring in the greateſt aid and aſſiſtance againſt this paſſion; but, in age they are benummed as it were, and congealed, ſo that they ceaſe much from their operation and motion, and can adminiſter little or no courage at all.

Nor is it thus only with the ſpirits, but the organical parts alſo of the body are in this ſtate made unfit for their functions, and altogether unſerviceable to reſiſt the very appearance of danger; and ſtand (as I may ſo ſay) ready prepared for the entertainment of fear; the great conſequences whereof, ſuch as whiteneſs and ſtiffneſs of the hair, trembling of the joints and heart, impotency of ſpeech, failing of the eyes, and aſtoniſhment, paleneſs of the face, horror, gnaſhing of the teeth, involuntary emiſſion of excrements, are very eaſily produced in this condition; nay, they are moſt of them already there to be found, without an object to effect them; therefore no wonder if thoſe things which are τὰ κίνα κινδύνων to the ſtrong man, prove φοβερώτατα to the decrepit.

Theſe things were known to be true, without an inſtance; yet, I cannot but take notice

face of *Jacob*, who, while young and ſtrong, did exceed moſt men we read of, for courage and boldneſs; with what audacity did he manage the two great enterprizes of obtaining both the birth-right and the bleſſing; and that while he was yet very young? with what courage did he undertake, and go through with a long and lonefome journey, an hard and a deceitful ſervice? but when he was old he was of a more timorous ſpirit: it was fear let fall that paſſage, *If I am bereaved, I am bereaved*, Gen. xliii. 14. Such news as one would have thought would have refreſhed his heart, when he was old overcame it; *for when it was ſaid Joſeph is yet alive, and he is governor over all the land of Egypt, Jacob's heart fainted*, Gen. xlv. 26. Fear was a paſſion ſo ready at the door, that it ſtept in firſt, and had almoſt over-borne him, and left no place for joy to enter in. Good *Eli*, when he was very old, was very fearful, he timorouſly reproves the outrageous wickedneſs of his ſons, 1 *Sam.* ii. 22. and after this black and dreadful enemy had once taken poſſeſſion of him, it followed him continually, and dogg'd him till he died. When the *Iſraelites* and *Philiſtines* were about to join battel, he ſate in a fearful poſture, and it is ſaid, *his heart trembled*, 1 Sam. iv. 13. and when the iſſue was told him, *he fell from off his ſeat backward, and his neck brake that he died*; and the reaſon is added, *for he was an old*

old man and heavy, ver. 18. I will not here be ſo bold as thoſe that ſay (building their opinion upon the original word) his falling down backward and dying, was from a voluntary principle; but I dare ſay, it was from an inward one: his age had ſo enfeebled him, that he was not able to bear the news of a defeat, eſpecially ſuch an one, wherein the ark of God was taken, but his darkſom inward foe, taking advantage hereupon, ſtrikes him ſurely, under the fifth rib, that he died.

The objects of old mens fears are here preſented unto us under a double notion; firſt, thoſe things which are high, *excelſa timebunt, aut de excelſo*; *they ſhall be afraid of that which is high:* Secondly, thoſe things which are lower, more plain and obvious, even in the way; *conſternati in via, vel formidabunt in viis*; *fears ſhall be in the way.* Conſternation and fearfulneſs do not ſurprize men, and overthrow them all at once; *nemo repente fit timidiſſimus*; but they come on by degrees, and firſt thoſe things that have more of dread in them become the objects of their fear: *High things*; *high*, either in reſpect of place, as ſteep and eminent ways, hills, and mountains, ſteeples and towers, which formerly they could without fear aſcend, and walk upon; or *high*, in reſpect of the air, as fiery meteors, ſtrange apparitions, thunder and lightning, and ſuch like: or *high*, in reſpect of abſtruſeneſs, or my-

myſterioufneſs, as the deep and ſubtile points in divinity, about the eſſence of God, and the duration of eternity, about the immortality of the ſoul, and changes of the body, and many other things, which while young they could better have borne the diſcourſe of: or *high*, in reſpect of hardſhip, or difficulty; thoſe great enterpriſes, and hazardous undertakings, which while ſtrong they durſt with boldneſs have ventured on, do now become a terror to them, even in the thought of them; but as age comes on, and their fears increaſe upon them, not only thoſe things which are high, but even plain and eaſy things become the objects of their fear; *pavores in via*: Mole-hills are now as dreadful as mountains were before; every thing that is near them, and about them; every thing that is plain and obvious; every matter that is facile, and eaſily attainable, bears itſelf with terror towards them; they are afraid of every thing they are doing: they walk in fear, ſometimes, leſt peradventure they ſhould daſh their foot againſt a ſtone; ſometime leſt that other people, heedleſly paſſing by, ſhould ruſh upon them, and injure them: being conſcious to themſelves of their own impotency, it makes them moſt obnoxious to this terrible paſſion, which is the great change that is made upon the mind in the time of age.

The almond-tree ſhall flouriſh.

The ſymptom laſt treated of was in refe-nce to the great change that is made upon e *mind* of man; thoſe which follow have ference to the *body*. And that we may ac-urately obſerve the wiſe man's method, we uſt premiſe one common diſtinction of the arts of the body; for we muſt know that heſe are not independent ſayings, caſt forth a venture, but a moſt exact and methodi-al treatiſe of the ſymptoms of age, as it in-luenceth and altereth all the parts of a man: Now the parts of the body (as the word is aken in the largeſt ſignification) are either nimate or inanimate; either ſuch as partici-ate of the life of the whole, and are nouriſhed by the intra-ſuſception of enlivened aliment; or ſuch as have no life at all from the body, or in themſelves, and are nouriſhed only by the juxta-poſition of an excrement: Of the firſt of theſe, there are very many in the body of man, which are treated of in the follow-ing words: of the latter of theſe there are very few, as the nails and the hair; and of theſe the hair receiveth the moſt notorious al-teration in age, which is here ſignified unto us by theſe words; *The almond-tree ſhall flouriſh.*

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The word which is here tranſlated an *almond tree* is from the original word שָׁקַד, *advigilavit*, to watch, or wake, as it is uſed in that place; *The watchman waketh but in vain*, Pſal. cxxvii. 1. And by way of analogy it is tranſlated to ſignify *amygdalus*, the *almond tree*: *Quæ prima inter arbores evigilat*; becauſe this tree before all others firſt waketh, and riſeth from its winter's repoſe; it flowers in the month of *January*, and by *March* brings its Fruit to maturity*. The forwardneſs of this fruit-bearing tree is intimated unto us by the viſion of *Jeremy*; for the word of the Lord came unto him, ſaying, *Jeremy what ſeeſt thou? and he ſaid, I ſee a rod of an almond tree: Then ſaid the Lord unto him, thou haſt well ſeen, for I will haſten my word to fulfil it*, Jer. i. 11, 12. The ſame word is in this text uſed, both for the *almond tree*, and for *haſtening*; *Thou haſt* therefore *well ſeen*. Nothing could have better repreſented the ſpeedy fulfilling of the word of God, than that *haſting*, the *almond tree*. The manner that the wiſe man is pleaſed here to take, to expreſs the great changes that happen to the body of man in the time of age, is according to that intricate, and moſt myſterious, and ænigmatical way of the *Egyptians*; whereby they are wont to expreſs their meaning of the things intended, by ſome other creatures which do moſt reſemble what they are ſpeaking of. Now there

* *Plin.* lib. 16. c. 25.

there is no change that befalleth man that can be ſo livelily repreſented by the blooming of the almond tree, as that whereby the hair of the head becomes hoary and white; and therefore *florebit amygdalus*, muſt needs ſignify unto us, this great alteration; which bears reſemblance unto that of the almond tree in ſeveral particulars, ſome of which follow hereafter.

Firſt, They are both of them of the ſame colour, and repreſent themſelves alike to the ſight; the bloſſoms of the almond tree are perfectly white, and ſo are the hairs of the old man, and they are not only nakedly of the ſame colour, but both of them ſo, by way of eminency; not only white, but the whiteſt of all, none ſo white as they: *Flores amygdali primi exiſtunt & maximè ſunt albi præ cæteris arboribus.* So alſo is it with man in the time of age, he is white, and no creature, living to that time, ſo white as he: And hence it is that *logicians* make *caneſcere* to be *proprium homini, tertio modo; quod convenit omni, ſoli, non ſemper.* They will allow no creatures at all to grow white when they are old, as man doth: and although our ſenſe teacheth us, that almoſt all creatures tend towards that colour, yet they very much vilify it in compariſon of a man, and therefore give it a far more inferior, and an unhandſome name*.

Secondly,

* *Griceſcere.*

Secondly, They do very much agree in their haſtineſs, and forwardneſs of putting forth; how early and quick the almond tree is in putting forth its bloom and fruits hath been already ſhewn; and might yet farther be confirmed in that great myſtery the rod of *Aaron*, which although it was miraculouſly changed in one night's time, as a token againſt the rebels, to take away their murmurings; yet it is to be noted, that it was done upon this forward wood: *And it came to paſs that on the morrow, Moſes went into the tabernacle of witneſs, and behold the rod of Aaron for the houſe of Levi was budded, and brought forth buds, and bloomed bloſſoms, and yielded almonds.* But naturally alſo, this blooms much ſooner than other trees; this is the true *erigeron*, that early in the ſpring-time bears the repreſentation of old age. Now it is better known to all men how exceeding forward gray-hairs are.

Obrepit properata malis inopinata ſenectus,
Intempeſtivi funduntur vertice cani.

There is no ſymptom of age puts forth itſelf ſooner than this; and as the almond tree buds ſooner by two or three months than moſt other trees, ſo do theſe haſty buds of age appear ſometime twenty or thirty years before ſome others: Some mens hair begins to change when they are but thirty or forty years of age, whereas many other ſymptoms appear not till they

they have paſſed ſixty or ſeventy years. Theſe ſteal upon men ſuddenly, before they are aware, to which the prophet doth allude in thoſe ripe and unexpected judgments that were falling upon *Ephraim*; *Gray hairs are here and there upon him, yet he knoweth it not*, Hoſ. vii. 9.

Thirdly, They do agree in their eminency and remarkableneſs, they are both of them moſt ſignal things; men ſtand ſtill and admire if accidentally they caſt their eyes upon the almond-tree that ſtands all on the bloſſom; and ſo they do if they behold a comely and honourable head of hair, that is as white as that: The trees that bloſſom in *March* or *April* are little taken notice of, becauſe then it is a common thing, neither have they that ſplendor upon them, that the almond-tree hath, that advanceth its moſt comely top all alone, while all other ſleep in their winter garments. In like manner the almond head is taken ſpecial notice of among a thouſand, every one being very deſirous to behold it, and that with great admiration and reverence; *The glory of young men is their ſtrength, and the beauty and honour of old men is the gray-head*, Prov. xx. 29. And this honour is put upon it by the ſpecial appointment of God himſelf; *Thou ſhalt riſe up before the hoary-head, and honour the face of the old man, and fear thy God: I am the Lord*, Lev. xix. 32.

Fourthly, They are very much alike in their indications; they are both of them moſt certain *diagnoſticks* of the thing they appertain to; if there are no other ſigns than they, yet may all men be very well aſſured of the truth they beſpeak: If there be no other tree in all the woods, or orchards, bloſſomed beſide the almond, yet know aſſuredly from thence, the ſpring is come: if there be nothing at all beſides that ſhews it; if no flowers appear on the earth; if the ſinging of the birds be not come; if the voice of the turtle be not heard in the land; if the fig-tree doth not yet put forth her green figs, nor the vines with their tender grape give a good ſmell, *Cant.* ii. 12, 13. yet if the almond-tree be bloſſomed, know of a truth, that the year is turned, that the ſun is coming nearer towards us, and that the ſap ſtirs, though it be not elſehow perceived. The ſame certainty of demonſtration alſo doth attend the hoary head; if no other ſymptom appear, yet if the hair begin to change white, know from thence, that the winter of age hath already begun to ſhew itſelf; the evil days are coming on apace, though the ſun, or the light, or the moon, or the ſtars be not darkened: Though the keepers of the houſe, the ſtrong men, the grinders, and the lookers out of the windows, be not yet enfeebled; though the doors be open in the ſtreet, and the voice of the grinding, and the daughters of muſick be as high

nigh as ever; yet if the almond-tree flouriſh, f the hair of the head be changed to white, t is an undoubted indication of the weakneſs ttending age; the habit of the body is al-eady changed, the innate heat begins to be uffocated, the radical moiſture is conſuming, the excrements (which conſtitute the hair) are nconcocted, and the temperament of old age hath already ſeized the man, although it be no other ways to be diſcerned.

Laſtly, They do alſo exceeding well agree in their *prognoſticks*; they are both of them moſt certain forerunners and foretellers of what is to follow after them. If the almond-tree be bloſſomed, it is a moſt certain ſign that fruit will come after, and that it is not far behind: *Aaron*'s rod budded (as you heard) and ſoon after it brought forth almonds; the flowers are in order to the fruit that muſt ſucceed.

——*Cum ſe nux plurima ſylvis*
Induet in florem, & ramos curvabit olentes,
Si ſuperant fœtus, pariter frumenta ſequentur.

And thus gray hairs, the flowers of old age, do give a certain prognoſtick, that death, which is the fruit thereof, is near at hand. *Jacob* ſaith concerning his ſon *Joſeph*, *If miſchief befal him by the way, then ſhall ye bring down my gray hairs with ſorrow to the grave*, Gen. xlii. 38. A *ſad* accident might have brought them

down with ſorrow to the grave; but they would have come as *ſurely* without. Theſe are church-yard flowers, which may ſerve to them that bear them, inſtead of paſſing-bells, to give them certain notice, whither they are ſuddenly going. There are ſome naturaliſts who are yet bolder, and affirm, that the very thought and imagination of gray hairs, even in the dreams of them, though in a perſon never ſo young, do portend the ſame thing. When they were ſacrificing in behalf of one of the emperors of *Rome*, the hairs of a boy's head, who did adminiſter to the prieſts, were all on a ſudden changed to white; which the ſoothſayers and wiſe men did preſently interpret to the change of the emperor, and that an old man ſhould ſucceed; which accordingly fell out; for *Nero*, who was but one and thirty years old, was ſoon taken away, and *Galba*, who was ſeventy-three, reigned in his ſtead. There is far more certainty in the reality of the thing. It may thus fall out to young men, but it muſt thus fall out to old: *Mors, ſenibus, in foribus eſt; juvenibus, in inſidiis:* Young men are taken away, but old men go away, in their own natural courſe; for *candidi* are *candidati mortis, & per eam, immortalitatis.* Thoſe that are white are marked out in order unto death, and thereby unto immortality. There might many other particulars be aſſigned, wherein the almond-tree and the hoary head

do exactly agree; but these few may suffice to shew us, that the change of no other part of the body in age, can be hereby figured out unto us so properly as this we have been speaking of.

Beside *canities* is a constant attendant on age, and is intimated unto us in no other part of this allegory: How often in scripture are they mentioned both together? *I am now old and gray-headed*, saith *Samuel*, 1 Sam. xii. 2. and *David* prayeth, *When I am old and gray-headed, O Lord, forsake me not*, Psal. lxxi. 18. Nay, I may say one thing of this symptom, that is not said of any of the other; it is a plain and a full description of age, without any addition at all; say a gray-headed man, and you say an old man, without any farther *peripbrasis*. *The sword without, and terror within, shall destroy both the young man, and the virgin; the suckling also, with the man of gray hairs*, Deut. xxxii. 25.

The grashopper shall be a burden;
Or rather,
Shall grow (or shew) big and burdensome.

In the interpretation of this sentence, and that which follows, which doth depend hereon, I must of necessity recede somewhat both from the common translation, and the usual interpretation of the place; wherein, if my opinion, together with its novelty, bring along

with it any thing of ſatisfaction, I preſume it will be never the worſe accepted: For in theſe theoretical notions, the danger is not ſo great, to deviate from the beaten road, and to be heterodox to the generally received opinion. For the ſubject of this propoſition, without all controverſy it is the locuſt or graſhopper; which differ very little, either in their nature or form, and may very well intend the ſame thing: The predicate is far more difficult, and therefore hath given occaſion to more variety of tranſlations; that which is moſt uſual is, *erit oneri*, which our *Engliſh* exactly follows, *The graſhopper ſhall be a burden*; from whence moſt interpreters do put this ſenſe upon the place, *viz.* that the graſhopper, or any ſuch ſmall thing, is a great burden to old men; which although it may be a truth, yet it can in no wiſe be intended by theſe words: For then king *Solomon* would in this clauſe vary much from the general ſcope of all theſe verſes, which is (as hath already been ſaid) allegorical, and from the particular mode of expreſſing himſelf in this verſe, which is hieroglyphical. Beſide, the words in no propriety of grammar can poſſibly bear ſuch a ſenſe as this; and it hath been a great wonder to me how this conſtruction was firſt taken up, and how it hath gained ſo great credit among men: Nor can I yet give myſelf the leaſt ſatisfaction herein, unleſs it be from the ambiguity of the *La-*

tin

tin phraſe, *erit oneri*, which may very well be taken in a double ſenſe; either *erit oneri ſeni, ſeu alteri*; or *erit oneri ſibi*. The firſt of theſe muſt be taken for the carrying the words to the interpretation which hath been before mentioned; but how incongruous it is to the very grammatical reading of the words, any one who is the leaſt ſkilled in the original can eaſily give an account. For what is here predicated is directly predicated of the graſhopper, and not in relation to any other perſon, or thing elſe whatſoever. And hence ſome have tranſlated it, *onerabitur, ſive gravabitur*; others, *onerabit, ſive gravabit ſe*; others, *creſcet*: the vulgar *Latin* gives the metaphor one remove more, to thoſe that are burdened with fleſh or fat, rendring it, *impinguabitur locuſta*; but the tranſlation of the Septuagint upon this word is moſt remarkable, and gives very great light to the underſtanding of the true meaning of the place, παχυνθῇ ἡ ἀκρὶς, *Craſſabitur, denſabitur, vel pingueſcet*. Wherefore, that the doubtfulneſs of ſpeech, both in the *Latin* and *Engliſh*, (which hath miſled moſt interpreters) may be for the future removed, I judge it moſt convenient that the tranſlation of the vulgar *Latin* take principal place, or that it be rendred in *Latin*, *locuſta, onuſtam ſe reddet*, or, *præbebit*; which the conjugation doth moſtly favour; and in *Engliſh*, the graſhopper ſhall grow (or ſhew) big and burdenſome. For the

right underſtanding of which words, we muſt be ſure to enquire, what parts of the body of man they are, that may be moſt aptly repreſented by the graſhopper, and what change that is, that is here denoted unto us: Which that we may the better do, we muſt alſo take notice of one ſpecial diſtinction of the parts of the body.

Of the parts of the body that are enlivened by the ſpirit of the whole (for of the other mention was made in the laſt) there be two ſorts: Either the fluid, moiſt, ſucculent, tender, and ſoft parts of the body; or the dry, ſolid, tenſile, hard, and cruſty parts of the body. The firſt of theſe ſeem to be intended in the following words; the laſt of theſe, in theſe that are before us. This diſtinction is uſually termed, the diſtinction of the philoſophers, in oppoſition to all thoſe manifold diviſions of the parts of the body, that are to be found among phyſicians; and indeed it hath more of clearneſs and demonſtration in it, than any of the other; neither that of *Hippocrates* in ἴχουτα, ἰχόμενα, & ὀρμῶντα; nor that of *Galen*, *in ſpermaticas & ſanguineas*; nor that generally received among moſt, *in ſimilares & organicas*, is without its difficulties; it hath put very learned and ingenious men very hard to it, to make the beſt of theſe ſtand firm againſt its oppoſers: but this that we are now ſpeaking of, is ſo plain and obvious to the ſenſe,

ſenſe, that no man ever yet diſallowed of it, or hath at any time undertaken to contradict it. Indeed, that diſtinction of the parts into ſpermatical and ſanguineous, as uſually it is applied, comes the neareſt to what is here intended; but the terms are not ſo proper; and beſide, they are built upon a falſe foundation, which is, that the ſeveral parts of the body have their origination from ſeveral and diſtinct principles of generation, *viz. ſemen & ſanguis menſtruus*; but the ingenuity of this latter age, hath juſtly exploded ſuch a doctrine as that, and hath brought all knowing men to confeſs, that all the parts of the body, both of one kind and of another, have their original equally from one and the ſame ſeminal matter. And yet the former diſtinction of the parts, *in molles & duras*, may be found to have a juſt right, even from their firſt producer. For the ſeed itſelf is not of ſo equal a ſubſtance and conſiſtence, but that variety of parts, as to ſoftneſs and hardneſs, may eaſily be diſcerned in it. And this *Job* (beyond all human writers whatſoever) doth plainly declare, when he ſaith, *Thou haſt poured me out like milk, and curdled me like cheeſe*, Job x. 10. The very firſt matter of generation in this reſpect hath a double ſubſtance; there is a lacteous, and a caſeous part therein; there is a tenderer and a more fluid part; there is alſo a more condenſed and coagulated part; which are apt to produce afterward parts in the

body of the like diverſification; as the following verſe doth plainly expreſs; *Thou haſt covered me with ſkin, and with fleſh, thou haſt fenced me with bones and with ſinews*; bones and ſinews, they proceed from the curdled part of the ſeed; fleſh of all ſorts, both muſculous, parenchymous, and glandulous, that proceeds from the fluid or milky part; and ſkin, that is the *medium participationis* of them both. *Fleſh and bones* therefore ſeem to ſtand in the greateſt oppoſition one unto another in reſpect of this diſtinction of the parts; and all the other parts of the body to each other, as they have relation to one of theſe. Now which of theſe two the graſhopper doth beſt reſemble, is very eaſy for any one to give an account.

The locuſt and graſhopper are both of them hard, cruſty, cragged, crumpling creatures, differing from all others principally in the proſuberance of their limbs, having their legs ſtrangely crooked, and their joints very cloſely inverted, and at a great diſtance from the trunk of their body. And this is the moſt remarkable thing in their frame, and that by which they are deſcribed in the Book of God; *Yet theſe may ye eat of every flying creeping thing that goeth upon all four, which have legs above their feet to leap withal upon the earth*, Lev. xi. 22. And afterward they are enumerated, *The locuſt after his kind, and the graſhopper after his kind*, ver. 23. This then being the known

form

form of theſe creatures, they do moſt aptly repreſent the hard and ſolid parts of the body, the bones and their protuberances, and all thoſe parts that are produced from the thicker part of the ſeminary matter. *Oſteologers* have very well obſerved, that the parts appertaining to the bones, which ſtand out at a diſtance from their bodies, are either the adnate, or the enate parts, either the *epiphyſis*, or the *apophyſes* of the bones. The firſt of theſe in age grow harder and more compact and affixed to the bones themſelves; the laſt of theſe in age grow more apparent, and ſeem to be bigger, and ſtand at a farther diſtance than they did before: And unto this it is that the *Chaldee* paraphraſe doth directly point; *inflabuntur tali pedum tuorum.* Now, the *tali* are ſometimes taken for the *aſtralagi*, the bones in the heel, and ſometimes for the *malleoli*; the *apophyſes* of thoſe two bones which conſtitute the leg, namely, the *tibia*, and the *fibula*; all which, together with them that anſwer them in the wriſt, and all other bunching parts of the bones, (which would be needleſs particularly to name) do in age appear far bigger, and at a greater diſtance from the body of the bone, than they did before. Yet I cannot but take more ſpecial notice of one ſort of bones, whoſe *apophyſes* are more eminent, than any others; and may therefore be more aptly reſembled by the graſhoppers, and they are the *vertebræ* of the

ſpine;

ſpine; every one of which, both in the neck, in the back, and in the loins, have ſeven ſeveral prominencies, four oblique ones, namely, two aſcending, and two deſcending: two tranſverſe ones, and one acute, ſtraight forward towards the ſkin. Now, when man, by reaſon of age, begins to ſtoop and bend forward, and withal thoſe fleſhy parts, that cover theſe proceſſes, begin to ſhrink and decay, (as ſhall be ſhewed in the following ſymptom) it muſt neceſſarily follow, that all thoſe *apophyſis* muſt appear a great deal plainer and bigger than they were before; whereby they will ſo exactly reſemble the ſeveral protuberances of the limbs of the graſhopper, that no words can ſufficiently expreſs their likeneſs, and none but the diligent obſerver of them both can poſſibly underſtand. And from this exact likeneſs, without all doubt, aroſe the fable of *Tithonus*, that living to extreme old age, he was at laſt turned into a graſhopper; and into it, it may be very well moralized again; for then the body of man is quite another thing than what it was in its prime; it is contracted, and becomes much leſs, and crumpled up together, and in the end is brought even to crawl upon the ground.

Contrahimur, miróque modo decreſcimus ipſi,
Dimidium noſtri corporis eſſe putes:
Fitq; tripes, prorſus quadrupeſq; ut parvulus infans,
*Et per ſordentem flebile ſerpit humum.**

* *Cornel. Gallus.* There

There remaineth yet one reaſon more that nduceth me to believe, that the parts we have been ſpeaking of are principally here intended, and that is taken from the word which is here the predicate, whoſe root כבל ſignified primarily, to carry or bear burdens, *Lam.* v. 7. *Ezra* vi. 3. *Neh.* iv. 10. and in this ſenſe it is moſtly uſed. Now, the parts in man that may be called the porters, and which bear the burdens that are carried, can be no other than the *ſcapula*, and its *acromion*, which is the part upon which the burden is pitched; and the back bone which is the part that gives the greateſt ſtrength towards the bearing of it, both which, when age hath much enfeebled a man, become unſerviceable as unto thoſe ends; theſe porters do now become a porterage themſelves, and thoſe parts that were wont to bear the greateſt burdens are now ſo great a burden themſelves, that the man ſtoops under them, and is ſcarce able to bear them.

Now, as the bones are principally here intended, ſo alſo all the other parts of the body, that are made of the ſame craſſiment of ſeed, may be here included; and if we do but here recal the tranſlation of the LXX, we ſhall underſtand what change it is in age, that all theſe undergo; the cartilages of the body, the ligaments, the membranes, the fibres, the veins, the arteries, the nerves, the tendons, and the like,

like, do all grow harder and drier in age, and tend more towards the nature of bones. The ſkin alſo, being partly of this kind (as was before ſaid) is to be numbred hereunto, which ſo long as man remains in ſtrength, is beautiful, plain, and polite; but as he declines, grows more cruſty, and dry, and callous, and conſequently falls into abundance of wrinkles.

Plurima ſunt juvenum diſcrimina, pulchrior ille
Hoc, atque ille alio———
Una ſenum facies.

And that learned phyſician *, (who in his youth had wearied himſelf out with the uncertainty and confuſion of profane authors, and therefore in his age betook himſelf to ſacred philoſophy) that he might more powerfully aſſign over this hieroglyphical expreſſion to the ſenſe we have here delivered, ſaith; the locuſt ought to be underſtood of the ſea-locuſt, which is covered over with an hard, and a cruſty and rugged ſhell: and whoſoever ſhall ſo take it, cannot but conclude, that it doth decipher the parts we have now treated of. However, I judge the land-locuſt, or graſhopper may very well ſignify the ſame thing; beſide, it is much better known to men, than the other is, and may be extended to ſome parts (that ought here to be included) which the other cannot ſo ſignificantly denote; for by

* *Valleſius* de ſacra Philoſ. c. 66.

by this clauſe, the graſhopper ſhall be a burden, we are to underſtand the alteration of all the more hard and ſolid parts of the body, uſually called the ſpermatical; *ductilium*, viz. *induratio*, & *incruſtatio*; & *fragilium extantia*, & *prominentia*.

Deſire ſhall fail,

Or rather,

The capers ſhall ſhrink.

The word הָאֲבִיּוֹנָה hath two remarkable ſignifications, the one primary and plain, whereby it ſignifieth, *deſiderium*, *concupiſcentia*, *appetitus*; deſire, or appetite; the other, ſecondary or figurative, whereby it ſignifieth *capparis*, capers, or the fruit, or rather the flowers of the caper ſhrub, or buſh. And this word is tranſlated from its firſt ſignification to this latter, becauſe of the known uſe of capers, which is to excite the appetite: *Capparis excitat orexin*, & *appetitum*, *cibi*, & *veneris*: from whence it is, that ſome do not improbably derive the word from καπράω, *ad luxuriam concito*; and for theſe ends, eſpecially that of the ſtomach, are they preſerved in pickle, and ſo often uſed among us for ſauce. Now, that the word in this place ought to be taken in this latter, that is, in the figurative ſignification, theſe following reaſons do induce me to believe, every one of which ſingly,

ly, ſeem to have a good perſuaſive power; but all of them jointly have doubtleſs a compulſive power, to any rational man to be of the ſame opinion. The firſt, is the general ſcope that the wiſdom of *Solomon* propoſeth to itſelf in this whole deſcription of age, which is by way of allegory all along: No wonder therefore if the ſame wiſdom, where there be two ſignifications of a word, ſhall rather prefer the allegorical. The ſecond, is the particular intent of this verſe, which is to ſhew the ſenſible alterations that are made in man in old age, both in reſpect of his mind, and of the ſeveral parts of the body, and that ſymbolically, or by way of reſemblance to other things, and not at all to relate to any of the faculties; and that which doth abundantly back this reaſon, is, that the weakned faculties were deſcribed before, and particularly it was ſhewn ſufficiently how the appetite both *ad cibum* and *coitum* was weakned, in the laſt verſe, in thoſe words, *the voice of the grinding is low*: And therefore a learned commentator * upon this place, when he had ſaid, *ſenum libido frigeſcit*, further adds, (that which might better diſtinguiſh it from what went before) *& organa coitus diſſipantur*; which is indeed, the true purport of the words, though but in part. Again, the contextural expreſſions are of the ſelf-ſame nature, both thoſe that follow in the allegory,

* Cornel. à Lap.

llegory, namely, the ſilver cord, and the olden bowl: and alſo thoſe that immediate- / precede, namely, the graſhopper, and the lmond-tree: And as the word שקד was ranſlated from its primary ſignification, which ', waking, (as was ſaid) to that figurative of he almond-tree; ſo alſo would it be moſt ongruous to deal with this word we are now bout. Again, authority is ſufficient, yea, bundant for this way of tranſlating it: If any ne pleaſe to conſult all the variety of inter- reters, he ſhall find (that which is a great urity) the moſt and the beſt to go together, this ray; and ſince *Hieron* did but give favour ereunto, I find no tranſlator vary hencefrom, ut ſome few into vulgar tongues.

Laſtly, By this way of tranſlating only, here will be a direct oppoſition, and a perfect *ntitheſis* (which certainly there ought to be) etwixt this word and that which immediately ent before. The graſhoppers and capers are n their form and faſhion, their ſubſtance and onſiſtence, clean contrary one to another; he one, being protuberous, rough, cruſty, nd hard: The other, round, ſmooth, ſpongy, nd ſoft: And therefore may be very fit em- lems to repreſent the ſeveral contradiſtinct arts of the body, under the ſame variety of onſiſtence. Wherefore, as the graſhopper id principally repreſent the bones, and ſe- ondarily, all thoſe parts that proceed from the

the craſſiment of the ſeed; ſo alſo here, the capers do as aptly repreſent principally the fleſh, and ſecondarily, the other moiſt and fluid parts of the body that proceed from the more tenuous part of the ſeminary matter: and that which doth farther confirm this reaſon, is, from the *antitheſis* that is alſo in the predicate of theſe expreſſions: For as there, the graſhoppers are ſaid to grow big, or burdenſome; ſo here, the capers are ſaid to ſhrink or decay; for ſo the word תָּפֵר ſignifieth, and is uſually tranſlated, *diſſipabitur*, *abolebitur*, *conteret*, ſhall waſte or conſume, ſhall be ſpent, or worn out; and is a metaphor taken from interbaſtation, patching or piecing, ſewing or clapping cloſe together, making faſter or harder thoſe things, that were more dilated, ſpongy, and flouriſhing before: So that what we are to underſtand by this ſentence, the capers ſhall ſhrink, is the alteration of all the moiſt and tender parts of the body, uſually called, the ſanguineous; *fluidarum*, ſcil. *depravatio & minoratio: & mollium ariditas & conſumptio.* I cannot exclude hencefrom that change that befalleth the blood and natural humours of the body in the time of age: For they become low and much depauperated, they are diminiſhed, and far leſs in quantity than they were before.

Mini-

Minimus gelido jam corpore ſanguis.

Nor can I exclude that change that happeneth to the fat and marrow; man in his full ſtrength is deſcribed by *Job* to be ſuch an one, *Whoſe breaſts are full of milk, and his bones moiſtned with marrow*, Job xxi. 23, 24. But when he is very old, there is ſcarce any milk, or fat, or marrow, or moiſture left in all his body; a conſumption is determined concerning them all. But that alteration which is principally here intended, is that which befalleth thoſe parts of the body that uſually go under the name of fleſh. Now, the fleſh of the body is of three ſorts, *parenchymous*, *glandulous*, or *muſculous*; the fleſh either of the bowels or entrails, or of the glandules or kernels; or laſtly, of the muſcles, or outward parts of the body that are the inſtruments of voluntary motion. It is without all queſtion, that the entrails of man, as the liver, the ſpleen, the heart, the lungs, *&c.* do receive great alteration in age, they decline very much from their ſoftneſs, ſponginеſs and poroſity, and become far harder and faſter, and more ſchirrous than they were before. The ſame alſo may be ſaid concerning all the natural glandules in the body of man, thoſe that ſerve either to excretion, to reduction, or to nutrition: They all of them vary much from their primitive tenderneſs and bigneſs, and ſo become more durous, and are far more conſumed

ſumed than they were at firſt; and that which the learned and moſt ingenious author of the late tract *de glandulis**, doth obſerve of the *thymus*, by the time of middle age, may be alſo obſerved of moſt of the other glandules in the time of extream age; that is, that they will bear very little proportion either in weight or ſubſtance, to what they did at firſt, but by experience they are found to ſhrivel and ſhrink away, and be conſumed almoſt to nothing.

But of all the parts of the body, thoſe lax and tender flakes of fleſh, that lie over, and cover the bones, and are at both ends affixed to them, which from the form of ſome of them are uſually called muſcles, do moſt properly deſerve the name of fleſh, and are conſequently chiefly intended in this place. Theſe are in Scripture called the coverings of a man: *Thou haſt covered me*, ſaith *David*, *in my mother's womb*, Pſal. cxxxix. 13. And again *Job*, *Thou haſt covered me with ſkin, and with fleſh*, Job. x. 11. Now, as man declines in years, ſo do theſe coverings wax old and ſhrink, ſo that at length they become ſhorter and narrower, than that a man can comelily be wrapped up in them: So that this, together with the former ſymptom, doth abundantly ſhew the great alteration and deformity that is eaſily diſcerned upon the external parts of the body, in the time of extream age. The body becomes more uncomely, cragged

* Dr. *Wharton*, c. 16.

ged, and crumpled; the bones ſtare through the ſkin; the fleſh that ſhould cover them is waſted much away. And this condition is livelily deſcribed by *Elihu*, one of the friends of *Job*; who ſpeaking of God's dealing with men, ſometime in reference to their body (pointing therein at *Job*'s conſumption, which in this reſpect is exactly anſwerable to the *Maraſmus ſenilis*,) ſaith, *His fleſh is conſumed away that it cannot be ſeen, and his bones that were not ſeen, ſtick out*, Job xxxiii. 21. I would have this expreſſion be principally noted, and remembred, as being a moſt perfect comment upon theſe two laſt mentioned ſymptoms of age. For the former words, *viz. His fleſh is conſumed away that it cannot be ſeen*, is the ſame that is ſaid in theſe words, *diſſipatur capparis:* and the latter words, *viz. The bones which were not ſeen, ſtick out*, is the ſame which is ſaid in thoſe, *impinguatur locuſta.*

And thus much ſhall ſuffice to have ſpoken for the explication of all thoſe ſymptoms that attend a man all along the time of his decrepit ſtate.

For man goeth to his long home: and the mourners go about the ſtreets.

Theſe words being not at all figurative, but only a plain and eaſy tranſition from one part of the allegory to another, namely, from thoſe ſymptoms that attend a man all along his decrepit

pit ſtate, unto thoſe that do immediately fore-run his diſſolution: It is beſide my purpoſe to ſpeak to them at all, for my intention hath been only to explain the difficult terms in the allegory; And I would not willingly ſeem to any, ὡς ἀλλοτριοεπίσκοπος, to play the biſhop in another's dioceſe, 1 *Pet.* iv. 15; or to meddle with thoſe matters that are peculiarized to another coat, yet becauſe the words are now read, I cannot but take notice of two things in them, that is, firſt, the term of long home; and ſecondly, the mourning at the funeral.

The word עולם which intimates unto us the ſtate of death, and is here tranſlated *long*: hath three eminent ſignifications, either of which may be very well accepted in this place.

In the firſt place it ſignifieth, *abditum*, *occultum*; a ſecret and an hidden thing, and thus it is derived from the word עלם *Latitavit*, *abſconditum fuit*, as it is very often uſed: *If the whole congregation of Iſrael ſin through ignorance, and the thing be hid from the eyes of the aſſembly*, Lev. iv. 13, v. 2. And again, (not to cite many places to this purpoſe which were eaſy to do,) in the laſt verſe of this chapter and book of *Eccleſiaſtes*; *For God will bring every work to judgment, with every ſecret thing*; which is from the ſame original word uſed in this fifth verſe for long home. And indeed, that home that we are all haſting to, and know not how ſoon we may recover or come at; and aged perſons are

ıbtedly at the door of, is the true and r hiding place for all living: *For they ſhall down alike together in the grave, and the ſhall cover them*, Job xxi. 26. *Men are gether in the duſt, and their faces are there in ſecret*, Job xl. 13. Death is a ſtate of rity, and the grave a place of ſecrecy; and fore it is that *Job*, wiſhing for death, phra-; *Oh that thou wouldeſt hide me in the grave, thou wouldeſt keep me in ſecret*, Job iv. 13. eſide the bare ſignification of ſecrecy, this doth for the moſt part carry along with intimation of duration or continuance; herefore may very well be tranſlated, *tem-ejus duratio eſt abſcondita*, an hidden dura- a time that no man knows how long; h is exactly anſwered by our *Engliſh* Law-e, *time out of mind*; and that both *à parte* and *à parte ante*; time either that is paſt, ıat is to come; of which no man can give xcount: Both which alſo are ſignified unto y the *Latin* word *olim*, which without all lion came from the *Hebrew* word we are ſpeaking of, *Eccl.* i. 10; as both the ſound ſignification will abundantly make appear: r this duration at leaſt is in the ſtate of h, that no man knows how long it will inue: No one living can give an account long it ſhall be before the earth ſhall diſ- her blood and her bones, and ſhall no e cover her ſlain.

The

The ſecond ſignification of the word is *ævum*, *ſeculum*, an age, a certain long ſpace of time, that is commenſurate with the duration of the thing that is ſpoken of; a perpetuity (as I may ſo ſay) that is circumſcribed; an everlaſtingneſs that laſts as long as the thing of which it is affirmed: It is ſaid of an *Hebrew* ſervant's refuſing to go out free, *His maſter ſhall bore his ear through with an aul, and he ſhall ſerve him for ever*, Deut. xv. 17; Exod. xxi. 6. And again, when *Hannah* reſolved to preſent her ſon *Samuel* to the Lord, ſhe ſaith, *I will bring him that he may appear before the Lord, and there abide for ever*, 1 Sam. i. 22. 28. which term *for ever* is afterwards explained, when ſhe doth bring him and preſent him; then ſhe ſaith, *I have lent him to the Lord as long as he liveth*, 1 Sam. xxvii. *ult.* Now in this ſenſe alſo may the word be taken in this place, ſo long as death lives (and it is the laſt enemy that ſhall be deſtroyed) it will keep in its poſſeſſion all that it hath, or ſhall ſurprize: The graves muſt be our homes, when once we come there, as long as there is any duſt to cover us, or heavens to ſurround us. *Man lieth down and riſeth not, till the heavens be no more, they ſhall not awake, nor be raiſed out of their ſleep*, Job xiv. 12. Until the grave ſhall not only ceaſe from craving, but from being; and until death be wholly ſwallowed up of victory, all thoſe bodies that are under

their

ıeir power, muſt there quietly remain, as in ıeir own unalterable habitations.

The laſt ſignification of this word is *duratio bſolutè infinita, æternitas:* A compleat and abɔlute perpetuity, eternity. And in this ſigniıcation it is moſtly uſed, and muſt always be ıterpreted when it is applied to God, or any f his attributes, as often it is. When *Nebuhadnezzar*'s underſtanding was returned to him, e *bleſſed the moſt high, and praiſed and honoured im that liveth for ever, whoſe dominion is an everɣſting dominion, and his kingdom is from generaɨon to generation*, Dan. iv. 37. Again, it is ſaid ı *Iſaiah, Iſrael ſhall be ſaved in the Lord with n everlaſting ſalvation*, Iſa. xlv. 17. Now in his laſt ſenſe alſo may the ſame word in this lace be ſafely taken; *in domum æternitatis ſuæ.* The ſtate we arrive at, by death, is an everıſting ſtate, and we ſhall never return to this ife again through all eternity. And hence it s, that uſually we find ſuch epitaphs; *hanc eternam ſedem ſibi poſuit:* and

Hæc domus æterna eſt, hic ſum ſitus, hic ero ſemper.

Nor is the ſcripture without its teſtimony ıereunto; for *David* ſaith, *Spare me a little hat I may recover ſtrengtb before I go hence and e no more*, Pſal. xxxix. 13. And *Job* doth ıot only ſay it, but argue upon it: *There is hope of a tree if it be cut down, that it will*

ſprout again, and that the tender branch thereof will not ceaſe. Though the root thereof wax old in the earth, and the ſtock thereof die in the ground: Yet through the ſcent of water it will bud, and bring forth boughs like a plant: But man dieth, and waſteth away; yea man giveth up the Ghoſt, and where is he? Job xiv. 7, 8, 9, 10. And that interrogation, *If a man die ſhall he live again?* ver. 14. which uſually is interpreted vehemently to affirm; ſeems on the contrary to me, moſt earneſtly to deny, and is as much as to ſay, if a man die he ſhall never live more, no hopes of a return to this life again: And this,

Firſt, the manner of propoſing the queſtion ſeems chiefly to intend; for it is not *negatively* propoſed; *If a man die ſhall he not live again?* but *affirmatively, ſhall he live again?* Now negative interrogations do in all languages, and in ſcripture phraſe too, more properly intend affirmative propoſitions, as where it is ſaid, *Doth not each of you, on the ſabbath day looſe his ox, or his aſs, from the ſtall? and ought not this woman alſo to be looſed?* Luke xiii. 15, 16. both of them moſt vehemently affirming: and again, another interrogation; *How ſhall he not alſo with him give us all things?* Rom. viii. 32. is as much as to ſay, he ſhall moſt ſurely do it. On the other hand, affirmative interrogations do for the moſt part intend negative propoſitions: *Joſeph* ſaith, *How can I do this great wicked-*

wickedneſs and ſin againſt God? Gen. xxxix. 9. and the Lord ſaith, *How ſhall I give thee up, O Ephraim? how ſhall I deliver thee, Iſrael? how ſhall I make thee as Admah? how ſhall I ſet thee as Zeboim?* Hoſ. xi. 8, 9. all of them intending the denying of the thing: Both theſe Interrogations, about the ſame ſubject too, are together in one verſe of the *Pſalms*, ſtill intending their contrary propoſitions; *What man is he that liveth, and ſhall not ſee death? ſhall he deliver his ſoul from the hand of the grave?* Pſal. lxxxix. 48. the firſt part of the verſe is negatively propoſed, and therefore ſignifies the ſtrong affirming of the thing, he ſhall ſurely ſee death: and the latter part of the verſe is affirmatively propoſed, and therefore ſignifieth the vehement negation of it; he ſhall in no wiſe deliver his ſoul from the hand of the grave: The manner therefore of propoſing this queſtion being without a negative, doth ſeem to carry the ſenſe, that if a man be dead he ſhall never live again.

Secondly, The inference that is hence made confirms the ſame thing; *All the days of my appointed time will I wait till my change come*; doth far more naturally and powerfully proceed from the denying of life again, than from the aſſerting it, as to the diligent obſerver will eaſily appear: if a man ſhall never live again in this world, it is of moſt high concern to prepare for that change that foreruns an everlaſting ſtate. There is no returning more

from death, and therefore let every
upon his buſineſs, and finiſh it, be
time come: *There is no work, nor d*
knowledge, nor wiſdom in the grave, u
are going: And ſince there is no
thence from, how cogent will the
be, for every one to wait all the da
appointed time, till his change ſhal
If the tree fall to the ſouth, or to the
the place where the tree falls, there it
Eccleſ. ix. 10. And therefore it
greateſt concern to take care how
fall. If a man at his departure ou
life fall towards happineſs, or toward
in the ſame condition he falls, ſhall h
for ever; and therefore it is a bu
everlaſting concern, to await our fall.

But laſtly, That which makes it
clear, that this interrogation intends
gative, is the words in the latter er
chapter; where *Job* reſuming the ſub
ſummarily declaring what he had be
ſpeaking of; he ſaith plainly, *Thou*
for ever againſt him, and he paſſeth, thou
his countenance, and ſendeſt him away,
20. I ſpeak not theſe things in the le
ervate that moſt comfortable chriſtian
of the *reſurrection*; and as *Job* was v
ful in the forecited chapter, to keep h
as unto that; ſo that in the midſt of
ter (that therefore it might have a

over the whole) he interpoſeth a ſentence to that purpoſe; *Man lieth down and riſeth not, till the heavens be no more*, ver. 12. So I would not have any one ſo far miſtake the doctrine, as to think the body of man ſhall be kept in everlaſting chains of darkneſs: for, though it ſhall never return to this working ſtate again, yet God hath appointed a ſet time, to remember it in, *ver.* 13. at which time it ſhall, by the word of God, ſhake off its corruption, diſhonour, and weakneſs; and by his gift ſhall be cloathed with ſpirituality, glory, and immortality, 1 Cor. xv. 41, 42. Herein no one can err, who knows the ſcripture, and the power of God, as our Saviour intimates; the power of God teacheth us, that God can raiſe the dead, *Mat.* xxii. 29. and the ſcriptures teach us that he will; and what God can, and will do, muſt certainly come to paſs: But the doctrine of the New Teſtament gives a far clearer light hereunto; therein there is a ſufficient teſtimony given unto all men, *in raiſing Chriſt from the dead*, 1 Cor. xv. 23. For he being the firſt fruits of them that ſleep, gives a certain demonſtration, that all the other alſo muſt follow in their order. Ἰησῦς and ἀνάςασις, Acts. xvii. 18. are ſo nearly related to each other, that they are preached and believed, they are ſlighted and contemned together: their foundation is ſo much the ſame, that they muſt neceſſarily

ſtand and fall alike. I have obſerved that thoſe late ſpreading doctrines that have purpoſely obſcured the hiſtory of *Chriſt* at *Jeruſalem*, have, before they have been aware, wholly loſt the doctrine of the reſurrection: I ſhall not farther add hereunto; it may ſeem that I have too much digreſſed already; but I hope no farther, than for the neceſſary clearing of the words *long home*, and the reſerving entire that unqueſtionable article of our faith, *the reſurrection of the body*.

The other remarkable thing is the mourning at the funeral; I ſhall not ſpend time in diſcourſing what kind of mourners theſe are; whether children, relations, friends, neighbours, hired perſons, theſe, or any, or all of theſe; it is enough that there is a publick mourning expreſſed, at ſuch a funeral as this; I ſay *it is enough*, and methinks I hear ſome others ſay, *it is too much*; for if it be ſo, as hath been related, if age be ſo miſerable and comfortleſs a condition as hath been deſcribed; happy ſure are they that are gone, or going, off from it: If all manner of evils do attend thoſe that are extremely aged, and nothing that good or pleaſurable is; when they change this ſtate, for that which is perfectly happy (as we ought to believe concerning all our chriſtian friends departed) inſtead of mourning, why ſhould there not be rejoicing? inſtead of hanging down the head and weeping, why

ſhould

ſhould there not be lifting up the head and triumphing? at ſo great a bettering their condition, as ſuch a change muſt neceſſarily produce: To this I muſt needs anſwer, That, if we truly underſtood ourſelves, and were thoroughly poſſeſſed of what we do profeſs, in reſpect of the party deceaſed, there were no cauſe of mourning at all, but rather of rejoicing; and this not only in reſpect of perſons decrepit with age, but of any other, in whatſoever flouriſhing condition of this life; for the change would then be, but from a leſs miſerable eſtate, to that which is moſt compleatly bleſſed: for man, at his beſt eſtate, as he is altogether vanity, ſo he is very miſerable, and encompaſſed and perplexed with abundance of evil, which his laſt happy change gives him a deliverance from for ever. *The righteous are taken away from the evil to come*, Iſa. lvii. 1. and the ſtate they are taken to is infinitely and unexpreſſibly happy. Moſt noble and excellent was that ſaying upon a moral account; the ſelf-ſame journey that thou haſt taken from no being, unto being, and from a pre-exiſtent being, to this mortal life; thou mayeſt again take (with the ſame aſſurance of preferment) from this life, by death, to a life that has immortality in it: but the believer in *Chriſt Jeſus* only, hath a true proſpect of the advantages of his great change: the life of Chriſt, and the gain of

death, are known and apprehended together: *For to me to live is Chriſt, and to die is gain*, Phil. i. 21. He that hath lived unto the Lord knows full well, *That when his earthly houſe of this tabernacle ſhall be diſſolved, he hath a building of God, an houſe not made with hands, eternal in the heavens*, 2 Cor. v. 1. He aſſuredly knows from the prelibation of eternal life, which he hath had in this world, that then all tears ſhall be wiped away from his eyes, and he ſhall never know one evil more, and that he ſhall be put into immediate poſſeſſion of all thoſe good things, that he either prayed, or hoped for in this life, into a perfect ſtate of bliſs, infinite, at leaſt, for the duration: And therefore upon this account, there will be very little cauſe of lamentation. And, whoſoever he is that mourns merely upon the account of the party deceaſed, he doth neceſſarily redargue himſelf of unbelief, and plainly ſhew, that there is an heſitation in his mind, concerning one of theſe two things; whether heaven be ſuch a place as hath been deſcribed unto us in the book of God, or whether his friend be aſſuredly gone to that place. So that funeral mournings are, as divines ſay of funeral ſermons, more in reſpect of the living than of the dead. To go unlamented is no miſery to the dead; but a ſhame to the living. There doth indeed lie a duty upon all that are left behind, to bewail their

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own loſs of their godly friend; natural affection, and the fleſhly part of man ought ſomething to be indulged in this reſpect; but the loſs of a great and a long example of piety, whoſe preſence hath been a continued bleſſing, both to perſons and places; ought moſt ſeriouſly and ſadly to affect the inward man; and therefore they are ſharply reproved by the prophet, who are negligent in this duty; *The righteous periſheth, and no man layeth it to heart; the merciful men are taken away, none conſidering*, &c. Iſa. lvii. 1. And it is to be obſerved, that the ſaints of God, though never ſo old, and brought never ſo low, through the miſeries attending them; when they changed this life for a better, were ſtill buried with great lamentation, *Gen.* l. 1 *Sam.* xxv. 1. *Num.* xx. 29. *Deut.* xxxiv. 8. *Abel-mizraim* was a place never to be forgot, either by the *Egyptians*, or the *Canaanites*; and not *Jacob* only, but *Moſes*, and *Aaron*, and *Samuel* were buried by the aſſembly of the people of *Iſrael*, and very great publick mournings were made for them all.

VERSE 6.

Or ever the ſilver cord be looſed, or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel broken at the ciſtern.

THus far the king hath been treating of all thoſe ſymptoms that accompany a man all along his decrepit ſtate, which may appear upon him while yet he may have ſome ſpace given him to remain in the land of the living: Theſe that follow in this verſe are ſuch that immediately forerun his diſſolution; which when they once appear, there remains nothing, but a preſent preparation for his funeral. And they may ſerve as indications, not only in this weak and ſpent condition of age; but in whatſoever other condition of man's life, by the violence of a diſeaſe, they are jointly found; they give a moſt certain prognoſtick of approaching death. In the explication whereof there is very much variety of opinions; ſo that it would be exceeding tedious and troubleſome to follow them all; but I ſhall ſpare all that pains, and take notice of none of them, but what I judge to be neareſt the intention of the wiſe man, foraſmuch as moſt of the other, carry their own refutations in their faces: and if I may be directed to find out any thing of truth contained in them, that alſo will bear its own evi-

dence

dence along with it, and may ſerve for eviction of whatſoever is contrary thereunto. Foraſmuch as *rectum eſt index ſui, & obliqui.* Death, which is the fruit of old age, and the unavoidable receptacle of all living, is deſcribed to be juſt at the door, by thoſe ſymptoms that belong to the inſtruments, either of the animal faculty, or of the vital; (as for thoſe that belong unto the natural, they have very little or no certainty in this caſe.) Thoſe that belong to the animal, have reference unto the brain, and the parts ariſing from it; either as they are continued without the *cranium, or ever the ſilver cord be looſed*; or elſe as they are contained within the *cranium, the golden bowl be broken.* Thoſe ſymptoms that belong to the vital faculty have reference unto the heart, and the parts ariſing from it; as they ſerve either for importation of the blood and ſpirits, *the pitcher broken at the fountain*; or for exportation of the ſame, *the wheel broken at the ciſtern.* Now of all theſe in their order.

Or ever the ſilver cord be looſed.

The firſt thing that we muſt here make enquiry into, is what we are to underſtand by the cord; and we muſt be ſure here alſo, as in all other parts of the deſcription, to keep within compaſs of the allegory; and find out thoſe parts of a man that are hereby repreſented. For he it is, that hath hitherto been

deſcribed unto us, as an old houſe greatly decayed and ruinated, but yet ſtanding, by all the foregoing ſymptoms; but now as an houſe falling down, which muſt no longer remain, by this ſymptom, and thoſe three which immediately follow in this verſe. And therefore theſe may very well be called, *quatuor mortis concomitantia* *; the four attendants upon dying man.

The ſcripture maketh mention of the *cords of a man*, Hoſ. xi. 4. which although they are there to be taken in a moral ſenſe, and ſo excentrical to what we are now about, yet they are a metaphor taken from the natural cords of a man, and may give ſome light thereunto: for as love in all bodies politick (and conſequently myſtical) doth both draw and unite; ſo in all bodies natural, the ſelf-ſame offices are performed by thoſe parts of which we are about to ſpeak; for we muſt know, that all the ſeveral parts of man are not kept, and bound faſt together, by ſpells; nor are his ſeveral members moved ſeveral ways, as it were by magick art; the ſoul of man doth not by a bare *jubeo* cauſe the repreſentation of outward objects, or the variation of the poſition of the ſeveral limbs, without the help of inſtruments; but by the apt frame of the whole body, and the pliableneſs of the ſeveral parts, and the convenient poſition of all the

* *Cajetan.*

the cords and pullies towards the appointed ends; we perceive outward objects, and move ourſelves at pleaſure, ſo as that an artificial man, could there be in it the ſame organs, and the ſame diſpoſition of them all, together with an active power to put them in execution would have a like ſenſe and motion with ourſelves. The *Chaldee* paraphraſe doth interpret this cord to the *ligula linguæ*, the ſtring of the tongue; others interpret it to the *ſpinalis medulla*, the marrow of the back; others, to the nerves; others, to the outward tunicle of the nerves and marrow, which they have proper to themſelves, for their own ſtrength; beſide the other two which they receive from the brain. All theſe have offered exceeding well, and without doubt have hit the truth, and being put together may ſeem to make the whole of what is here intended, which is the whole inſtrument of ſenſe and motion, after it hath proceeded out of the ſcull, and as it is diſtributed throughout the body; with all its coats and tunicles, with all its diviſions and ſeparations. I mean, not only the ſpinal marrow is here to be underſtood, (as principally it ought to be) but all the nerves ariſing thencefrom, (both thoſe ſeven pair, be they more more or leſs, that proceed from it, before it hath attained any of the ſpines; and thoſe thirty pair, that proceed from the ſeveral *vertebræ* of the neck, the back, the loins,

loins, and the *os ſacrum*) and alſo the filaments, and fibres, and tendons, that proceed from all thoſe nerves. The nerves and fibres muſt in no wiſe be here left out, foraſmuch as they do more apparently both unite and draw, than any other of the parts whatſoever. *Job* ſaith, *thou haſt fenced me with bones and with ſinews*, Job x. 11. I compare theſe fences of a man, to thoſe of an hedge; where the bones anſwer to the ſtakes in the hedge, making the ſubſtantial trunk of the body, unto which all the other parts are to be faſtened: and the ſinews or nerves to the binders of the hedge; which faſten and unite all the others parts to that trunk: and as for motion or drawing, it is well known that there is none in all the body performed, (whether voluntary or natural) but by the influence of the animal ſpirits upon the nerves and fibres, and their contraction thereupon, in thoſe ſeveral parts, into which they are inſerted. Now, altho' all the ſeveral and innumerable filaments are to be accounted hereunto, yet, they are moſt aptly expreſſed in the ſingular number, by *funiculus argenteus*, the ſilver cord, becauſe they are but the continuation of the ſame thing: The fibres being nothing elſe but the nerves divided and diſperſed, and the nerves nothing elſe but the marrow in like manner ſeparated, as ſo many arms and branches of the ſame tree; they are

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all one in their original, the brain; they are all one in their continuation for a long time, in the ſpine; they are all one in their colour, white; they are all one in their form, long and round; they are all one in their coats, having each the ſame three tunicles; they are all one in their uſe, to convey the animal ſpirits, and all this is an apt reſemblance to a cord; to which alſo they are not unlike in their diviſion, for then they are but as ſo many wreaths, or wattles of the ſame cord; and that which is moſt obſervable to our preſent purpoſe, is, that by how much the more diſtant they are from their original, by ſo much the thinner and finer, the harder and more compact do they grow, like the ſeveral ſmaller and better twiſted ends of the ſame cord.

It is called the ſilver cord, firſt from its colour, for it appears to the eye, of a white, ſhining, reſplendent beauty, bright as ſilver; and thus it is even when it is taken out of the body, after it is dead; but how much more admirable and glorious muſt it needs be, while it remains in the body yet living, and actuated with abundance of moſt refined ſpirits, which continually aſcend and deſcend thereupon. An ancient and an admirable anatomiſt *, upon conſideration of the great luſtre and perſpicuity of it, compares it to the cryſtalline humour

* *Fallopius.*

mour of the eye, and farther affirms, that he never ſaw any thing in all his life, more beautiful than thoſe two things.

Secondly, It may be called the ſilver cord, from its place in which it is ſeated in the body: it is placed very deep, ſecret, and ſecure; *Job* ſaith, *Surely there is a vein for the ſilver*, Job xxviii. 1. that is, there is an intricate, hidden, and myſterious cavity in the earth, in which this lunar mineral doth more ſecurely paſs its branches; juſt thus the cord of our body, as ſoon as ever it hath left its original, it is paſſed into the moſt inward and ſecret cavity of the ſpine, which by reaſon of that admiration and reverence the ancients had for it, they called, ἱερὰν σύριγγα, the holy pipe; and when in ſeveral places it paſſeth thencefrom, it is conveyed all along with wonderful artifice, both for ſecreſy and ſecurity, which is continued to the moſt minute filaments; for throughout the whole body, it lieth lower, and deeper, and ſafer, than the veins, or arteries, or any other common conveyers in the body of man.

Laſtly, and chiefly, It is called the ſilver cord, becauſe of its excellency: For as ſilver above all other minerals whatſoever (ſave only that moſt abſolute and perfect one of gold) is, and ought to be moſt valued and eſteemed; ſo is, and ought, this part we are now ſpeaking of, next unto that moſt abſolute and per-

fect part, the brain, which in the very next following ſymptom is aſſimilated unto gold. The ingenious chymiſts take pleaſure to liken the ſeveral metals they find in the bowels of earth, to the heavenly luminaries, who after they have compared the moſt perfect, aptly to the ſun; they in the next place, liken this of ſilver as aptly to the moon, and therefore decipher it alſo by the ſelf-ſame character; ſhewing us hereby, that as the moon in heaven is far more glorious and excellent, than all other celeſtial bodies whatſoever, (the ſun alone excepted) ſo ſilver in the earth, above all terreſtrial bodies whatſoever (gold alone excepted) hath the ſame pre-eminence.

Micat inter omnes,
——Velut inter ignes,
Luna minores.

And this dignity hath the ſpinal marrow with all its branches above all other parts of the body, except the brain; it hath been in ſuch eſteem among philoſophers *, that the beſt of them hath acknowledged it the foundation of life; and the great maſter of phyſicians hath dignified it with the name of ἀιών, thereby clearly intimating, that if vitality be not chiefly therein placed, yet the higheſt and moſt noble operations thereof are performed thereupon. And ſuch an exact likeneſs there is

* *Plato* in Timæo. *Hippoc.*

is between the nerves and ſilver, that they do by a mutual and reciprocal metaphor, ſuitably expreſs one another, in the two ſeveral worlds.

For as the nerves or ſinews are here ſaid to be the ſilver of the microcoſm, or little world; ſo is ſilver as aptly ſaid to be the ſinews of the macrocoſm, or greater world. There being nothing in the whole world that is vigorouſly carried on among men, but by the help thereof: ſilver is the ſinews of war and of peace, of merchandize and of tillage; nay, I may farther add, of learning, and of virtue too.

Quis enim virtutem amplectitur ipſam
Præmia ſi tollas.

Now, as all the works of the greater world ſoon come to nought, if the influences of the ſinews thereof be intercepted; ſo do all thoſe of the leſſer world, if the ſilver thereof periſh and decay; and therefore the looſening of the ſilver cord is here given as an undoubted ſign of inſtant diſſolution. For, as it was ſaid of the tabernacle, *That it was ſpoiled, and near its utter ruin, when the cords thereof were broken*, Jer. x. 20. Iſa. xxxiii. 20. ſo may it alſo be ſaid of this earthly tabernacle of our bodies, when we ſhall be unſtrung, and the cords of our bodies broken aſunder; we muſt then expect ſuddenly to be diſſolved: The word here

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is variouſly tranſlated, *rumpatur*, *elongetur*, *contrahatur*, *revertatur*, *diſſolvatur*; which variety may give very great light unto the ſeveral cauſes of the ſymptom here intended: but becauſe ſuch a narrow ſcrutiny may make a digreſſion from what is here intended, I ſhall for the preſent paſs it by, and only take notice of the ſymptom itſelf which is here aimed at; and, that the *Latin* word *diſſolvatur*, and the *Engliſh looſened*, do directly point at, namely, the ſolution of the nerves or marrow, called in *Latin* (from the *Greeks* and their radix λύω, *ſolvo*) *paralyſis*, and in *Engliſh* the *palſy*: Sometimes this ſolution happeneth only to one part of the ſilver cord, which cauſeth *paralyſis particularis*, and then the enlivening influence of the animal ſpirits is hindered only from thoſe parts of the body, to which that doth immediately tend, and ſo thoſe parts become wholly deprived both of ſenſe and motion; death hath already taken poſſeſſion of a leg, or an arm, or the half of that man, that is ſo far paralytick, hardly or never more to be diſpoſſeſſed; and therefore in our language it is well ſtiled the dead palſy. Sometimes it happeneth to the head of the ſpinal marrow, and ſo hindereth the influence of the ſpirits upon the whole ſilver cord, and conſequently takes away all ſenſe and motion from all the ſubjected parts; and this cauſeth *paralyſis univerſalis*, which at all times and upon all occaſions, gives a very probable

bable prognoſtick; but in the decrepit age of man, a moſt certain and infallible one, of immediate death.

Or the golden bowl be broken.

The ſymptom laſt treated of, had reference to the *rivulets* of animality; this we are now ſpeaking of relates to the *fountain*: For we muſt know that the ſoul of man, the queen regent of all his operations, makes the head the royal palace of her reſidence, from whence ſhe gives forth all her precepts, edicts, and commands, for the regulating and actuating all the ſubjected parts of the body. Now the parts of the head are of two ſorts, either the *containing*, or the *contained* parts thereof: The laſt of theſe, namely the encompaſſed, or contained parts, are the *cerebrum*, the *cerebellum*, and the *medulla*, with all thoſe ſeveral ſmaller parts, which curious obſervers have found out to belong to any of them; which I ſhall not ſo much as mention, becauſe they are not ſo directly pointed at in this place. And I do here, as I have done all along, induſtriouſly avoid all things, eſpecially all terms of art, or ſecond intentions, that do not immediately conduce to the underſtanding of the ſymptom under hand: But we muſt not ſo exclude theſe parts as to judge them not all concerned in this expreſſion; for upon the breaking of the golden bowl, the brain itſelf, with all the contained parts appertaining

pertaining thereunto, doth immediately ceaſe from all its operations: And if we ſhall take the original word in its plain ſignification, and as it is often uſed in ſcripture too, *Cant.* iv. 12. *Judg.* i. 15. for *fons*, or *ſcaturigo*, a fountain, or ſpring; it would ſeem moſt properly and primarily to intend this moſt noble part, the firſt ſpring of animality, the original fountain of all ſenſe and motion.

But becauſe I find the word otherwiſe tranſlated, and that upon very good grounds, by all that have undertaken that charge, I ſhall in no wiſe diſſent from them; for indeed the myſtical and metaphorical ſenſe of words ought ſtill to be preferred all along the allegory: And I would not by any means break a firm, well ſet, and a laſting hedge, if there be any the leaſt reaſon for the ſtanding of it. The root from which this word is derived is גָּלַל *volvit, circumvolvit, complicavit, circumduxit:* Sometimes it is tranſlated to rowl, or to rowl together; ſometimes to rowl away, or to rowl back; ſometimes to rowl over, wrap up, or encompaſs: ſo that the word in the text is ſometimes tranſlated *lecythus*, a pot, or bowl, *Zach.* iv. 2, 3. to hold any liquid ſubſtance in; ſometimes *lenticula*, a chriſmatory, or cruet, or veſſel to contain oil; ſometimes *orbis*, a ſphærical body encompaſſing others, 1 *Kings* vii. 7, 41. The vulgar *Latin* removes the metaphor once again, and brings it home to its own door; *vitta aureq,*

aurea, the golden headband; for *vitta* ſignifieth a veil, a coif, a garland, or whatſoever elſe may circle or encompaſs the head: the LXX. hath it ἀνθέμιον, the repoſitory of the brains; by all theſe we underſtand, that interpreters do *uno ore*, with full conſent, render the word to the involving, circumſcribing, encompaſſing, containing parts.

Which alſo are of two ſorts, either the external containing parts of the head; or the internal: the external (beſide thoſe common veſtments that appertain to other parts of the body alſo, as the *cuticula*, *cutis*, &c. which cannot be here underſtood) are only two, the *pericranium*, and the *cranium* itſelf; now although theſe are not chiefly intended in this place, yet ſurely they will put in for a ſhare of this elogie; foraſmuch as theſe do environ, defend, and ſuſpend all the inward parts, and do conſequently exceedingly conduce towards all animal operations. And the *Chaldee* paraphraſe doth directly interpret this word hereunto, when it ſaith, *et ne ſit confractus vertex capitis tui*; the crown of thy head be not broken: beſide the *Hebrew* word for the ſcull (as it is uſed in that place with many others, where it is ſaid, when they went to bury her, they found no more of her than the ſcull, and the feet, and the palms of her hands, 2 *Kings* ix. 30. *Judg.* ix. 53.) is very near a-kin to the word here in the text; they lie both together

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belly, and are derived from the ſame ſtock.
l that famous word which is a medly of the
ntal languages, being partly *Syriac*, partly
lde, and partly *Hebrew*, is alſo nearly re-
d hereunto; I mean the word *Golgotha*,
; is to ſay the place of a ſcull, Mat. xxvii.

The internal containing parts are alſo two,
ſe two membranes, namely a thicker and
arder; a thinner and a finer, that do yet
re immediately encompaſs the brain, which
the *Grecians* are known by the name of
ῆνιγξ, to the *Latins* by the name of *matres*,
ich title they took from the *Arabians*, inti-
ting thereby unto us, not only that they
give a being to all the other membranes of
body, as unto their own natural off-ſpring,
; chiefly, and that which is moſt to our
ſent purpoſe, that they do *maternâ curâ ce-*
re. proſpicere *, with a motherly care and
derneſs over-ſee and over-rule all the actions
the brain: but yet more particularly, the
ſt inward of theſe two, that doth by im-
diate contact encircle the very ſubſtance of
brain, doth ſeem to me to be κατ' ἐξοχήν,
way of eminence, the golden bowl here in-
ded. This is that part which deeply in-
uates itſelf into all the anfractuous paſſages
the brain; and, being firmly annexed
there-

* *Spigelius.*

thereunto, keeps every part thereof in its proper place, and due texture; ſo that whatſoever is performed within the whole compaſs of the brain, whether the making of the animal ſpirits, their exerciſe therein, or their diſtribution thencefrom, is done principally by the help of this membrane: Therefore the ancients, from that reverence they had for it, have juſtly honoured it with the name of *pia mater*. And if we do but thoroughly conſider the innumerable branches of the veins, but eſpecially of the arteries that are hereinto inſerted, and their ſeveral wonderful interchaſings, and intermixtures, and inſertions, not only one into another, but even among themſelves (which is not found in any other part of the body) we ſhall ſurely be induced to believe, that the greateſt depuration and defæcation, and conſequently the higheſt exaltation of the blood and vital ſpirits is performed herein. And though it pleaſeth the moſt worthy, and moſt learned author * of the anatomy of the brain, to give the honour of making the animal ſpirits, to the *ſubſtantia corticalis cerebri*; yet if you well weigh the doctrine there delivered, you will find it clearly evinced, that the greater work is done before; and that the *ſubſtantia corticalis* doth but midwife that into the world, which the *pia mater* conceives in its own bowels.

Portio

* Dr. *Willis*.

Portio ſanguinis ſubtilior (nempe talis facta in vaſis hujus membranæ) hic (nempe in ſubſtantia corticali) rude donata, in ſpiritus animales faceſſit. Now whether the purification and ſpiritualization, or the manumiſſion or liberation, be the moſt noble work, I think it no hard matter to determine.

It is called the *golden* bowl, for the ſelf-ſame reaſons for which the other was called the ſilver oord. Firſt, in reſpect of the colour, not only becauſe that moſt precious and deep coloured liquor of life is abundantly contained in the veſſels of this membrane, but chiefly becauſe the membrane itſelf is ſomewhat of a flavous colour, and tends more towards that of gold, than any other part whatſoever. Again, as *there is a place for gold where they find it*, ſo there is an hidden, ſecret, and well defended place, where this precious part hath its natural reſidence; much induſtry muſt be uſed for the finding out, and yet much more for the following of it, and tracing it, into all thoſe ſecret caverns, into which it doth moſt myſteriouſly diffuſe its branches; but chiefly it is ſo called from its excellency, and its univerſal uſe. The inſtrument that doth depurate the beſt of blood, and defæcate and exalt the vital ſpirits, and ſo prepare them for animality, can be likened in this lower world, to nothing, but that moſt abſolute, and perfect, that beſt concocted and moſt exalted mineral of gold. When the Lord

God had made the whole creation, he in the laſt place makes him, for whom all the reſt were made; *And he took man and put him in the garden of Eden, to dreſs it, and to keep it:* This place, of all the earth, was the meeteſt receptacle for ſo noble an inhabitant, *for it had in it a river, which was divided into four heads, the name of the firſt is Piſon, which encompaſſeth the whole land of Havilah, where there is gold,* Gen. ii. 10, 11; and all the other are there reckoned up by their names: When the Lord God had made this noble inhabitant of the duſt of the earth, he in like manner in the laſt place breathed into him that more noble part of him, for which all the reſt were made; and the ſoul of man, which is to rule and guide him, hath he placed in this moſt convenient ſeat, which is watered by a river, that is parted, and becomes four heads, which are all known by name, where alſo there is gold. *Arteriarum quadriga ad quatuor diſtinctas* τῆ ἐγκεφάλῳ, *plagas evehitur**; the two carotidal, and the two vertebral arteries are this golden quaternion, whoſe ſtreams make glad that city, wherein the breath of God hath its principal abode. There is yet another thing, wherein this part we are now treating of, and gold, have a very great reſemblance; and that is in the ductility of them both: Gold of all metals is the moſt ductile, and may be drawn out at the greateſt length; this only makes good

* Dr. *Willis*, Anatom. *Cerebri*, Cap. 10.

good that maxim in philoſophy: *Quantitativum eſt diviſibile in ſemper diviſibilia*; no man can draw gold ſo thin, but a better artiſt, can yet make it thinner; it is the nature of this ſolar mineral to be endleſs in purity: how pure fine the *pia mater cerebri* is, none can expreſs, and none but the diligent obſerver of it, (who hath often endeavoured its ſeparation from the parts to which it is annexed) can poſſibly underſtand. This, as ſo much leaf-gold, drawn out to a very great thinneſs, doth ſecurely, tenderly, and univerſally wrap up all thoſe little hills and valleys, thoſe convex, or concavous parts, that are within the compaſs of its own circumference.

This golden bowl, ſo long as man remains in his ſtrength, is firmly knit unto itſelf in all its parts, but in the extremity of extream old age, when he is juſt giving up the ghoſt, it can no longer continue its continuity; but, by reaſon either of its natural drineſs, ſhriveling into itſelf, or preternatural moiſture, imbibing excrementitious humours till it is over-full, it often ſnaps aſunder, and ſo recurs into itſelf, as the word properly ſignifieth; from whence the brain muſt neceſſarily ſubſide, and all the parts ſerving in any wiſe to animality muſt be ſuddenly and irrecoverably ſmitten, and ceaſe from their ſeveral uſes; and moreover, immediately hereupon followeth a change of the whole countenance, the noſe appears very ſharp, the eyes

ſink into the head, the temples are pinched in, the ears become cold and contracted, and the fibres thereof inverted, the ſkin about the forehead hard, intenſe, and dry, and the colour of the whole face livid and black, and in all things perfectly repreſenting, that *ultimum vale*, known among phyſicians by the name of *facies hippocratica*, and ſo conſequently the man doth immediately die apoplectical; according to that of *Job*, *Thou changeſt his countenance*, (and what followeth immediately thereupon,) *Thou ſendeſt him away.* So that the ſymptom hereby intended, is, *Repentina omnium operationum cerebri; motus, viz. ſenſus, & aliarum functionum animalium, tam principalium, quam minus principalium abolitio: cum facie hippocratica.*

It cannot but here upon this occaſion be remembred, that an apoplexy was mentioned before, in the explication of the ſecond verſe, and that as a diſeaſe of old age, which might ſurprize a man, and yet not immediately kill him, and of which there might poſſibly be a removal, at leaſt for a ſeaſon, that there might ſome ſpace be given him to recover a little ſtrength, before he go hence and be no more ſeen; how therefore comes it to paſs, that it is here accounted as one of the immediate harbingers of death?

For anſwer hereunto, we muſt know, that an apoplexy falls under a double conſideration; either as it is a diſeaſe, or as it is a ſymptom.

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In the firſt conſideration, it is *morbus conformationis reſpectu meatuum*; when by reaſon of ſome preternatural matter, in, or about the veſſels, there becomes an obſtruction, conſtipation, or compreſſion of them, ſo that either the vital ſpirits cannot be received, or the animal ſpirits cannot be exerciſed or diſtributed as they ought to be. This matter may ſometimes poſſibly be diſcuſſed, or carried off for a ſeaſon, or change its ſeat, and ſo the apoplexy degenerate into the palſy; however it is not an infallible ſign of inſtant departure, and under this conſideration it was handled in the ſecond verſe. But in the ſecond conſideration it is *ſymptoma morbi, nempe ſolutæ unitatis*; when by reaſon of the breaking of the golden bowl, and ſhrinking up into itſelf, there immediately follows a coaleſcence of all the veſſels thereof, and a ſubſidence of the brain itſelf, and conſequently, a total abolition of all the actions of the animal faculty, from whence there is not ſo much as the leaſt hopes of recovery; and under this conſideration it is handled in this place. Or it may be, the diſtinction of the learned *Nymmanus**, may be more ſatisfactory to ſome in anſwer to this objection.

Apoplexia eſt vel vera vel notha. A true apoplexy is when the *meatus* and open paſſages of the brain are ſhut up and obſtructed, and ſo the communication of the ſpirits is intercepted, the ſubſtance of the brain, and of all the parts ap-

* *Nymman.* de Apopl. cap. 21.

pertaining thereunto, remaining otherwiſe in good plight, as they ought to be, in their due place, with their wonted firmneſs of compoſition: And this is like unto an houſe, whoſe entry or common paſſages are wholly filled up with rubbiſh, ſo that it becomes altogether uſeleſs, and this is the diſeaſe of old age before-mentioned. But *a baſtard apoplexy* is a far more dreadful thing, when the tone of the brain, and of all the parts within the compaſs of the *pia mater*, is wholly relaxed and deſtroyed, and by conſequence only thereupon all animal functions do in a moment ceaſe, in the manner of the true apoplexy, but yet with far more terrible and amazing ſymptoms, the pulſe and reſpiration alſo being wholly taken away, and the countenance changed to that ghaſtly aſpect before mentioned; which is an infallible ſign of the duſt immediately returning to the earth as it was, without any the leaſt ſtop in its courſe; λύειν ἀποσωλεξίαν ἰσχυρὴν μὲν ἀδύνατον*. And this is like that houſe wherein the Philiſtines were gathered together to ſee *Samſon* make ſport, which came tumbling down, when the two foundation pillars thereof were violently torn from their place; *Ut collapſa ruit domus, ſubductâ columnis*; and this is the certain ſymptom of death, treated on in this verſe. And thus much ſhall ſuffice to have ſpoken for the explication of thoſe ſymptoms of death, that belong to the in-

* *Hippo.* l. 2. Apho. 42.

inſtruments of the *animal* faculty; thoſe two that remain belong to the *vital.*

Or the pitcher be broken at the fountain.

For the right underſtanding of this ſentence, and that which follows, which doth depend hereon, both of them belonging to the vital faculty, I muſt crave leave to premiſe ſomething concerning the life of man, wherein it conſiſts; and what thoſe parts are, that do principally conduce to the production and preſervation of it; for otherwiſe it is impoſſible to underſtand theſe ſymptoms. For as the prophecies of *Daniel* and moſt others of the latter times, *are cloſed up and ſealed till the time of the end,* Dan. xii. 9, when their known accompliſhments ſhall demonſtrate the truths contained in them: Juſt thus hath it happened to the great myſterious truths contained in theſe two laſt expreſſions; foraſmuch as the frame, action, and uſe of the heart, together with the true motion of the blood in man's body, hath lain hid from the time of *Solomon* throughout all generations, unto this laſt wherein we now live; the words of this allegory that contain the ſum of that doctrine, have all this while been an undiſcoverable myſtery, *as a book ſealed up, that none could read or underſtand.* And as all thoſe who have endeavoured to reveal the revelations, that muſt remain unrevealed till the appointed time of their revelation, have by all their in-

duſtry only declared their own weakneſs and inſufficiency for ſuch a work; and deſcribing at the beſt rate they could the myſtery of *Babylon*, by their darkneſs and confuſion, have only evinced that they themſelves were a part thereof; even ſo all thoſe that have undertaken the explication of what we are now about, before the doctrine of circulation was received among men, and gave light to the world, have, with their utmoſt endeavours, only declared their own inability, and have left theſe two enigmatical ſymptoms far more intricate than they found them; and of all thoſe ancient commentators and criticks that I have ſeen upon the place (which has not been a few) I never had the leaſt content in any, but one; and that is he, who, after he had ſet down the four ſymptoms in this laſt verſe, ſubjoins as his comment theſe words, *hæc quatuor ego non intelligo.* Moſt ingenuous *Caſtalio!* had all interpreters been ſo plain and honeſt, I perſuade myſelf we had had leſſer volumes, and yet far better underſtanding of the ſenſe of ſcripture, than now we have.

Now, in order to the end propoſed, we muſt know in the firſt place, that which the the ſcripture doth far above all other writings moſt clearly declare, and that is, that the life of a man conſiſts in his blood. For *it is the life of all fleſh, the blood of it is for the life thereof; therefore I ſaid unto the children of Iſrael, ye*

ſhall

ſhall eat the blood of no manner of fleſh, for the life of all fleſh is in the blood thereof, Lev. xvii. 13, 14. And this moſt noble liquor of life hath a primary ſeat or fountain, where it is principally made, and from whence it is diſpenſed throughout the whole body; and this is none other than the *heart*; for *out of it are the iſſues of life*, Prov. iv. 23. is a truth not only moral and ſpiritual, but natural alſo. This part continually iſſueth forth abundance of blood, wherein is the life, to all the parts that are to be quickened thereby. Hence thoſe medicines that are of a quickening and enlivening virtue, are not unfitly called *cordials*, becauſe they help the heart in its work, and do that by art, unto which the heart is by nature appointed: And ſurely between them there is a very great reſemblance, which makes the wiſe man ſay, *A merry heart doth good like a medicine*, Prov. xvii. 22. This wonderful part of man hath abundance of the wiſdom of the creator ſhewed in its formation, in ſo much that none is able fully to comprehend it, for *it is exceeding deep*, Pſal. lxiv. 6.

And that which is ſaid of the king's heart, though in another ſenſe, may as truly be ſaid of man's heart in general, *The heart of man is unſearchable*, Prov. xxv. 3. Yet thus much cannot but be obſerved by all thoſe that take pleaſure in ſearching out this great work of

God, that it is the fountain of life, the firſt living, and the laſt dying part of man, and that it doth communicate of its life and vigour to all the other parts of the body, tho' at the extremeſt diſtance; which live or die, according as the beams and influences of this glorious ſun of the body are communicated unto, or intercepted from them. It is ſaid of *Nabal*, *his heart died within him, and immediately he became as a ſtone*, 1 Sam. xxv. 37. if the heart give not forth its vivifying virtue, the fleſh doth immediately fail; and there is no fear of the latter, if there be a continuation of the former, for *a ſound heart is the life of the fleſh*, Prov. xiv. 13. *My ſon give me thy heart*, ſaith *Solomon*, Prov. xxiii. 26. intimating that that was virtually a gift of the whole. The ſovereignty and principality of the heart, above all the other members of the body, might be abundantly confirmed from ſcripture, but what hath been ſaid may ſuffice: Yet there is one place relating more particularly to the action and uſe of the heart, that I would eſpecially note; and that is in our *Engliſh* books, *My heart is inditing a good matter*, Pſal. xlv. 1. But here, as in many other places the tranſlation comes very ſhort of the original, and ſo the whole ſtrength of the metaphor is loſt. רחש, the word is not elſewhere uſed in the bible, and therefore in this place greatly to be weighed; it hath two ſignifi-

ſignifications, which joined together, make up the whole work of the heart.

The firſt is *fervere, ebullire, præparare cibos*; the other is *cum impetu protrudere, longè eructare ſive pulſare*; the heart gives heat, and motion, and life, unto that which is to be our nouriſhment; and after that it doth with a certain force and vehemency caſt it forth, and pulſe it to all, even the extremeſt parts, that are thereby to be enlivened. And this in the letter not having been underſtood by interpreters, makes them come far ſhort alſo in the myſtery; which is, that the doctrine of the kingdom of Chriſt (for that is the good thing that his heart is here inditing) having not as yet had its full meaſure of ſtrength and life in the world, and that which it formerly had, by reaſon of the revolution of time, and circulation of ages, being much weakened and enfeebled, is now again in *David*'s heart, by the ſpirit of the living God, impregnated with new vigour, and thence-from with great earneſtneſs pulſed forth to the generations to come, even to the end, to ſuſtain and ſupport them, and to quicken them all to their duty, and to a longing expectation of the glorious kingdom of their Lord. But to return to the heart with the blood: We muſt farther know for the explication of theſe ſymptoms, that there are within the body of the heart, two firmly diſtinct cavities, a right and a left, uſually called

ed *ventricles:* from which there ariſe, and unto which there are annexed, certain peculiar veſſels conducing to the ends hereafter ſpecified. Out of the right ventricle of the heart, proceeds the great vein called *vena cava*, which ſends forth branches throughout the whole body, and hath at its entrance into the heart, certain portals, from their form called *valvulæ tricuſpides*; and alſo that artery, anciently called *vena arterioſa*; inſerted into the lungs, unto whoſe orginal are annexed the portals reſembling the *Greek ſigma*, and and therefore called *valvulæ ſigmoideæ*. Out of the left ventricle proceeds that vein anciently called *arteria venoſa*, inſerted in like manner into the lungs; and alſo the great artery, called *arteria aorta*, which diſpenſeth its branches throughout the whole body; both whoſe cavities are defended with the like portals with the former. It remains only that we ſhew how the blood and life is actuated in theſe parts, and how it paſſeth in, and thro' them, and in and through the whole habit of the body; which is by way of rotation, or running the round, going out from the fountain, and returning thither again, *The ſun ariſeth, and the ſun goeth down and haſteth to the place where he aroſe; the wind goeth toward the ſouth, and turneth about unto the north, it whirleth about continually, and the wind returneth again according to its circuits; all the ri-*

vers

vers run into the ſea, yet the ſea is not full; unto the place from whence the rivers come, thither they return again, Eccleſ. i. 5, 6, 7. Thus it pleaſeth the king to expreſs the circulations of the greater world; thoſe of the leſſer are no leſs remarkable. The blood, wherein is the life of man, paſſeth about the body continually, and returns according to its circuits; the ſtreams thereof run into the fountain, which is never full; unto the place from whence they come, thither they return again; which is by the inſtruments before mentioned thus performed. The *vena cava* containing much blood in its cavity, near the *baſis* of the heart, on the right-ſide, doth gently paſs it into the right ventricle of the heart, which is dilated in its *diaſtole*, for its reception; and immediately thereupon contracting itſelf in its *ſyſtole* (the three pointed portals hindering the paſſage back again into the *cava*) it muſt neceſſarily thruſt the blood through the open paſſage of the *vena arterioſa* (where the ſigmoidal portals hindering its return) it muſt paſs through the ſtrainer of the lungs, and ſo be received into the branches of the *arteria venoſa*, and thereby brought into the left ventricle of the heart, where again it is with violence pulſed forth into the *aorta* (the portals here as before always hindering its regreſs), by the branches of which artery it is carried to all the parts of the body to enliven them; which work being

ing done, what remains is received into the capillaries of the veins in the ſeveral parts, whence it paſſeth of its own accord naturally towards its center, from the leſſer into the greater branches of the veins, and conſequently at laſt into the great trunk of the *cava*; from whence it is recommitted into the right ventricle of the heart, to be chaſed the ſame. This is the true doctrine of the excellency and motion of the blood, and of the uſe of the heart, and the parts appertaining thereunto; all which were perfectly known to *Solomon*, as will abundantly appear anon, in the explication of the ſymptoms we are now about. Yet it pleaſed the Lord that this knowledge ſhould, with the poſſeſſor of it, ſink into duſt and darkneſs; where it lay buried for the ſpace of 2500 years at the leaſt, till it was retrieved thence-from by the wiſdom and induſtry of that incomparable, and for ever to be renowned *Dr. William Harvey*, the greateſt honour of our nation, and of all ſocieties of which he was a member; who ſtands, and ever will do, with the higheſt note of honour in the calenders both of phyſicians and philoſophers; and it were but juſtice to put him with the ſame eminence into that of the church, ſince he hath contributed more to the underſtanding of this, and many other places of ſcripture, than all that ever undertook that charge.

Theſe

Theſe things being throughly weighed, and well underſtood, the two ſymptoms which remain to be ſpoken to, do open themſelves into the ſame doctrine without any more ado. By the *pitcher* therefore we muſt underſtand the true and proper conceptacle of the blood, namely, the *veins*, which throughout the whole body ſerve only as a veſſel, to contain that noble liquor, and carry it back again to the fountain. The original word כד ſignifieth ſometimes more generally any containing veſſel, and ſo is taken for the widow's barrel in which was the meal, 1 *Kings* xvii. 14. but more eſpecially that which is called a *pitcher*, *Gen.* xxiv. 16. *Judges* vii. 1. and ſo more frequently it is uſed. This word both the *Greeks* and the *Latins* take unto themſelves, only varying the termination as is moſt proper to each language, and that in the very ſame ſignification. Now the proper containing veſſel for the blood is the veins; there the blood is, as I may ſay, at home, in its own place; while it is in the heart, it is preparing enlivening, and enobling; while it is in the lungs, and all the other parenchimous parts of the bowels, it is depurating and cleanſing; while it is in the arteries, it is by force journeying; while it is in the poroſities of the fleſhy parts, it is communicating of life, and nouriſhing; but while it is in the veins, it hath no force upon it at all, nor is it doing

ing any thing of general uſe to the body, only conſulting its own good, and tending in its own natural courſe to its proper center; as milk is in the breaſts, and marrow in the bones, ſo is blood in the veins; and therefore theſe are the *pitcher* here intended. This pitcher alſo hath its ear, which is uſually called *auricula cordis*; which (notwithſtanding its name, is, as if it moſt properly appertained to the heart) yet we muſt know doth rather belong to the vein, and is indeed a part thereof, and not only a part, but the principal and primary part thereof, from whence all other parts and branches do ariſe, as from their original, and whereunto all the blood of the body, by the compreſſive motion of the veins, doth naturally tend, as to its ultimate hold, and whence-from it will in no wiſe depart but by force; and therefore this head-ſpring of the veins, being dilated by the continual afflux of blood, is neceſſitated to eaſe itſelf by contraction, and ſo conveniently forceth out a due proportion of blood into the fountain whereunto it is annexed.

Now the *fountain* can be no other than the right ventricle of the heart; for this is yet more ſtrictly the fountain of life, and forge of the vital ſpirits, and it doth ſenſibly live before, and die after the other parts, even of the heart itſelf; moreover here it is, that the matter of our nouriſhment receiveth its firſt en-

enlivening; for our food being received from the ſtomach and guts into the common paſſage of chyle, is thence-from carried directly into the ſubclavial branch of the *vena cava*, where being mixed with blood, it yet remains lifeleſs and heartleſs, till being carried along that vein it is at laſt brought into the right ventricle of the heart; wherein the heat, motion, and ferment, ſet the active principles thereof at perfect freedom, and ſo inſtantly endow it with plenty both of life and ſpirit. Thus richly fraught, doth the blood paſs out of its fountain, and by the ways before deſcribed it is brought to all the parts of the body, where parting with much of its lading for their ſuſtentation, and being refrigerated by the coldneſs of the extremities, and the ambient air, it would ſoon be coagulated, and altogether barren, did it not return again to the right ventricle of the heart, as unto its fountain, to recover its former perfection. This part, therefore, that doth at the firſt give life to that which enliveneth the whole man, and doth, as often as it returns thither, impregnate it anew with the ſame, muſt needs be the fountain here intended. And to this the original word gives an extraordinary clearneſs; implying, not only the *ſignum*, but the *ſignatum*; not the hieroglyphick only, but the part thereby deciphered: ſignifying in the firſt place, *fons*, a fountain; and ſecondarily,

ſca-

ſcaturigo venarum, the ſpring or original from whence the veins ariſe: and this is ſo clear, that it made ancient commentators interpret the fountain here unto the liver: Now, had they been right in their natural knowledge; that is, had they known that the veins do not ariſe from the liver, as from their firſt original, but from the right ventricle of the heart, (as all knowing men now confeſs they do); they had without all doubt, by the guidance of this moſt ſignificant word, pitched upon the true meaning of the place.

Theſe veſſels being throughly underſtood, we muſt farther know, that ſo long as man remains in perfect health and ſtrength, they are unceſſantly and carefully performing all thoſe offices unto which they are appointed; but this natural courſe doth not continue for ever, for this pitcher is but an earthen veſſel, and doth not ſo often go to the fountain, but at laſt it comes broken home. This breaking of the pitcher here (which is the ſymptom of old age juſt upon the point of death) is the failing of the veins, their ceaſing from their natural action and uſe, when they can no longer carry back, nor conveniently paſs into the heart that liquor, which they properly contain. That little blood that remains in the cold body of man near his end is ſoon coagulated; and, ſtagnating in the veins, the motion and circulation thereof is hindered;

dered; and ſo it becomes thick, like unto the pith of elder: and becauſe it cannot return to the fountain, for a redintegration of its life and ſpirit, it dieth in the veins; and ſo all the extreme parts of the body become ſpiritleſs and cold; which is the ſymptom here intended. *Frigiditas extremorum* is acknowledged by all that have conſidered that ſubject, as one of the moſt certain ſigns of approaching death. And our great maſter of prognoſticks, in that compleat and yet compendious book of his aphoriſms, doth once and again, not out of forgetfulneſs, but out of earneſtneſs, that it may more eſpecially be taken notice of, give us that famous maxim, ψύξις, ἀναπνοὴν, θανάσιμον.

The wheel broken at the ciſtern.

The ſymptom laſt ſpoken of had reference to the inſtruments of the vital faculty, which ſerve for importation, and reception of the blood and ſpirits; this that we are now ſpeaking to hath reference to thoſe, which ſerve for exportation and rejection of the ſame.

The blood (as was before obſerved) naturally, of its own accord, tends in the veins, unto the heart; but it returns not from the heart, into the parts of the body, but by force: Thus all the rivers in the land naturally ebb into the ſea; but they flow not thence-

from,

from, any farther than the violence and impulſe of the ſea extends. The blood, being once forced from the heart, is preſently received into the trunk of the great artery, called the *aorta*; and by the branches thereof is carried to all the parts of the body. This therefore being the chief and principal inſtrument of rotation, or circulation of the blood, is moſt aptly intimated unto us by a wheel: For what is a wheel, but an inſtrument of circulation? And what can a wheel be an hieroglyphick of, but of ſomething that goes, or makes the round? And this is ſo obvious to every one, that all who have ever commented upon this place, have been ſtill hammering at ſome ſuch thing. Some therefore have interpreted this place to the life of man, which paſſeth as in a ring, according to that ſaying, κοινὰ πάθη πάντων, ὁ βίος τροχός. Others have interpreted it to the death of man, when his compounding parts ſhall revert into the firſt beings.

Cedit enim retro, de terra quod fuit ante,
In terram, &c.

And ſo they make this expreſſion explained at large in the following verſe; *The duſt ſhall return to the earth as it was, and the ſpirit ſhall return to God that gave it.* Others interpret it to the reciprocal communications between the heart and the head; the heart continually ſend-

ſending to the head, blood and vital ſpirits; and the head again returning them to the heart, ſublimed inſtruments of animality.

Laſtly, There are that ingeniouſly interpret it to reſpiration, which is performed by a circular motion; inſpiration, and exſpiration continually ſucceeding one another in their courſes. All theſe archers have ſhot exceeding well, and have hit the *but*, (while many others have ſhot at rovers); yet theſe, not being able to diſcern the *white*, have not touched that principal mark. I mean, the grand circulation in man's body, not being known to theſe ancient commentators, they have done the beſt that could be in the ſecond place. What this grand circulation is, and how performed, hath been already deſcribed; and thoſe veſſels that are inward bound, which bring home the noble traveller, the encompaſſer of the little world, were deſcribed in the explanation of the foregoing ſymbol; but thoſe which are outward bound, which carry him forth with all his wealth and ſubſtance to accompliſh his intended end, are here intimated unto us by the wheel. That the great artery, with all its branches throughout the whole body, is here principally pointed at, hath been already ſaid; and may be farther confirmed, firſt, in that it anſwers ſo directly to the vein ſignified in the laſt ſymptom, by the pitcher. Secondly, In that it is to us the moſt apparent pulſor;

we

we can feel the blood to be forced along its cavity, in the wriſts, the temples, and divers other parts of the body. Laſtly, In that it is ſo appoſitely placed at the cock of the ciſtern, as you ſhall hear hereafter. Yet we muſt not ſo limit this wheel to the arteries, as to exclude the very ſubſtance and parenchymous part of the heart itſelf: For upon whatſoever inſtruments the pulſifick faculty is exercifing itſelf, they are all here intended, by the *wheel*; for they are they, and they only, that carry off the blood from the fountain, and force it from the centre of the body, to the circumference. Water may eaſily be conveyed in trunks or pipes, by its own natural tendency only, unto all thoſe places that are beneath or level with the ſpring from whence it firſt comes; but if you would have it of a farther uſe, to ſerve thoſe places that are higher than the ſpring, you muſt then fetch it up with violence, by a wheel, or ſome ſuch inſtrument of force; as is to be ſeen in our water-houſes, and all ſuch ingenious inventions of publick good. Thus all the blood in man's body is, in certain pipes and trunks, by its own natural tendency only, brought home to the heart; but it will in no wiſe go farther, to be of a more general uſe to the whole body, till it have ſome inſtrument of force to compel it thence-from: The pulſifick faculty is the mover, and the inſtruments of pulſation

the wheel that performs this work, that is of ſo publick a concern to the whole.

The ciſtern from whence this wheel forceth that liquor which afterwards it conveyeth throughout all the parts, is the left ventricle of the heart; for hereunto it is, that the great artery is annexed, and from hence it doth ariſe. A ciſtern is a veſſel made on purpoſe to receive a due proportion of water, and to contain it till the time of uſe, and then conveniently to paſs it into thoſe other veſſels, that are appointed to receive it thence-from. And thus the left ventricle of the heart doth, in its *diaſtole*, receive that blood that is brought unto it by the *arteria venoſa* of the lungs; and having retained it a little, it doth, in its *ſyſtole*, conveniently paſs a due proportion thereof into the *aorta*, to be diſpenſed as was ſpoken before; and this is the true and only uſe of the left ventricle. For the blood being enobled and enlivened in the right ventricle, and refrigerated, and cleanſed from its fuliginous vapours in the lungs, it is now in all things accompliſhed for its ultimate uſe, and remains only to be ſent into thoſe ſeveral parts it is to quicken; which it cannot conveniently be, unleſs it be firſt received into this ciſtern, and afterwards, by the pulſifick faculty and inſtruments, be diſpoſed of to that appointed end: And we cannot but here remind, thoſe portals that are placed, both at the

the entrance into, and paſſage from, the veſſel we are now ſpeaking of; namely, the *valvulæ tricuſpides & ſigmoideæ*, which as the cocks to let in, and let out, do by their opening or ſhutting give convenient paſſage, or abſolute ſtoppage, to that liquor which continually runs that way.

It cannot but by this time be acknowledged by all thoſe that have gone along with us, and taken ſpecial notice of the aptneſs of theſe two expreſſions, *viz. The pitcher at the fountain, and the wheel at the ciſtern*, to ſymbolize unto us the circulation of the blood, and the uſe and action of the heart, and the parts belonging thereunto; that the doctrine which is now juſtly called *Harvæan*, was at firſt *Solomonian*. For as it pleaſed God in theſe latter days to give in this certain and moſt uſeful knowledge, to the induſtrious and indefatigable endeavours of the learned Dr. *Harvey*; ſo did he of old, give in the ſame, unto king *Solomon* in the lump, together with all other natural knowledge, as a ſuperabundant anſwer to his fervent and effectual prayer: which great truth being confirmed by the powerful reaſons and ocular demonſtrations of the one, and by this divine teſtimony of the other, let it not be for the future in the leaſt meaſure doubted or queſtioned; but let it be greatly prized, and ſo much the rather, becauſe (while many others of great im-

importance, wherein theſe two worthies doubtleſs agreed, have periſhed by the way) this only from them both, hath eſcaped ſafe to our hands.

It remains now, that I only name unto you that ſymptom of old age, at the time of death, that is here ſignified unto us, by the wheel broken at the ciſtern; which cannot but be underſtood, to be the ceaſing of the pulſe: the inſtruments of pulſation decay, and can no longer perform that work, which muſt neceſſarily be continued for the preſervation of life: *It came to paſs when the Lord had a a purpoſe immediately to deſtroy the hoſt of the Egyptians, that he looked upon them, and troubled them, and took off their chariot wheels, that they drave heavily*, Exod. xiv. 24, 25. Whenſoever it is the good pleaſure of God to give that word of command, that the tabernacles of our bodies, ſhould be as they were; his purpoſe is eaſily diſcerned before-hand by his looking upon us, and troubling us, and giving diſturbance unto, and taking off, thoſe chariot wheels, upon which our life is turned; but yet this is far more apparent in the time of age, for then the chariot wheels are more ſenſibly hindered and removed, and ſo taken off by degrees. The old man's pulſe doth yearly and daily decline, both in reſpect of the mover, the ſtroke and the interval; ſo that it muſt needs beat more languidly, ſlower, and

ſeldomer than it did before. The faculty grows weaker, the uſe is not ſo urgent, nor the inſtruments ſo vigorous, in age; wherefore all the cauſes of a quick and a lively pulſe failing, the ſad effect thereof muſt undoubtedly follow: nor will it ever ceaſe declining, till it ceaſeth beating, and then the man immediately ceaſeth living; *pulſus rarus, tardus, languidus, & nonnunquam intermittens*, is the true pulſe of the old man, all the while he is in that condition, and is like unto the tolling of a paſſing-bell, which may put him and all his friends in mind, that he is ſhortly going the way of all fleſh; but *pulſus omnino abolitus ſive aſphyxia*, (which is the ſymptom here mentioned) is the condition of the dying man, and is like the ſtinting of the paſſing-bell, or rather the ringing out of the knell, which gives notice unto all that he is gone, and may ſerve as a loud and diſtinct invitation to the funeral.

And thus I have as plainly, and as briefly as I could, run over all theſe myſtical ſymptoms; both thoſe that attend a man all the time of his declining age, and thoſe that more immediately forerun, and foretel his laſt change. And now I judge it time for me to deſiſt: when all the ſenſe and motion, both in the rivulets and fountain is quite taken away, when there is death in the face, when there is a coldneſs in the extremities, and an utter abolition of the pulſe,

pulſe, there is no more room for the phyſician, or ſpace given him to intermeddle any longer. Thus far I hope I have kept within my bounds, and given no offence to thoſe jealous overſeers, to whom only the interpretation of ſcripture is deemed to belong; this ſubject hath been purely phyſical, wherefore in the proſecution of it, I have not exceeded my own laſt, nor made a breach upon that politick rule,

Quod medicorum eſt,
Pertractent medici; tractent fabrilia fabri.

It remains only that we review, and ſum up, what hath been here ſpoken, and ſo gather cloſe together that plentiful crop of miſeries which this earth we bear about us naturally produceth.

Febre caret ſola, circumſilit agmine facto,
Morborum omne genus.

Fevers ſet aſide, there is ſcarce any infirmity incident to the body or mind of man, that is not predominant in age; the old man is beſet with a troop of diſeaſes, when he is not able to reſiſt a ſingle one, and therefore muſt be ſubject to them all, as hath been ſaid, and is reſumed in the following *ancephalæoſis*.

- tomata senis
  - Adhuc viventis.
    - In Genere, *Vers.* 1.
      - *Senectus ipsa, quæ morbus est, etsi naturalis.*
      - *Cachexia* (i. e.) *Malus Corporis habitus.*
    - in specie respectu
      - læsarum facultatum vel functionum
        - Internarum, *Vers.* 2.
          - *Mentis imbecillitas, hebetudo, stupiditas, fatuitas,* μώρωσις (i. e.) *stultitia, tarditas ingenii, judicii defectus.* Ἄνοια, *amentia, melancholia, desipientia animi, memoria imminuta, abolita. Vertigo, Carus & Apoplexia.*
        - Externarum
          - Animalium, *Vers.* 3 in
            - Artubus in
              - genere
                - *Omnes infirmitates, motus & sensus impotentia, & hebetudo, rugositas, languores, dolores, convulsiones, rigiditas, macilentia.*
              - specie
                - *Tremor artuum; contractiones, abbreviationes & incurvationes eorundem.*
            - Dentibus
              - *Siccitas, vacillatio, putredo, cavitas, scabrities, nigredo, præcipuè casus, & defectus; seu raritas.*
            - Oculis
              - *Corrugatio, vel relaxatio uveæ tunicæ, suffusio, ex cruditate, caligo, glaucoma, zenisisis.*
          - Naturalium, *Vers.* 4. In principio
            - *Dejectus appetitus, imbecillitas stomachi, fæces alvi indebitæ, obstructiones omnes; pulsus debilis, rarus, tardus, mala sanguinis defæcatio, quoad serum, bilem, melancholiam, &c. Tonus partium vitiatus; carnis ariditas, indebita perspiratio: Cessatio mensium, papillarum pendentia, & lividitas; mammarum flacciditas, & rugositas: Impotentia & inappetentia concubitus, vasorum spermaticorum imbecillitas, & νύκρωσις, testium & partium propagationi dicatarum cachexia, & refrigeratio, totius corporis languor, & marcescentia.*

1. Occlusio laborum contra cibum, obseratio pharyngis, utriusque ... in

- Morbi &
  - Simpliciū affectuū; sive Qualitatū mutatarum, *Vers.* 5.
    - Mixtarum, *V.* 4. In fine
      - *omnibus arteriarum & venarum, imo omnium internarum partium, ostiis & valvulis; pororum constrictio, dysuria, stranguria, ischuria, alvi adstrictio, seu pigra, tardaque naturalis depositio.*
      - *Anxietates animi, inquietudines nocturnæ dolores corporis, præcipuè vigiliæ.*
      - *Et dyspnœa sive spirandi difficultas, distillationes tussim inferentes, ἀφωνία, αἰαυδία, sive vocis abolitio, diminutio aut depravatio; exsiccatio asperæ arteriæ, induratio Cartilaginum laryngis, sordes aurium præcipuè barycoia, sive gravis auditus & surditas.*
    - Animi, *timor*
      - *Minor*
      - *Major.*
    - Coporis quoad partes
      - Excrementitias. *Canities.*
      - Alimentitias easque vel
        - Duras. *Partium ductilium induratio & incrustatio, & fragilium extantia & prominentia.*
        - Molles. *Fluidarum partium depravatio & minoratio, & mollium ariditas & consumptio.*
  - Jam morientis *Vers.* 6. Quoad instrumenta facultatis
    - Animalis
      - Extra Cranium. *Paralysis particularis & universalis.*
      - Intra Cranium. *Omnium sensuum subita abolitio cum facie Hippocratica.*
    - Vitalis
      - Importantia. *Frigiditas extremorum.*
      - Exportantia. *Pulsus abolitus.*

I have here ſet down this recapitulation, that what is in theſe ſix verſes delivered, may be compared with any, or all thoſe ſyſtems of the diſeaſes of age, which have been given us by *Hippocrates*, *Galen*, or any of their followers; by *David de Pomis* the Jew, *Franc. Fogerolæus*, or *Franc. Ranchinus*, or any other heathen or chriſtian, that have antiently or modernly treated of this ſubject; and let preference be given to the moſt worthy. I would fain have the crown to be put upon the head of the king, his wiſdom only, among all the reſt, being pure and from above: which that it may be, I would in no wiſe have the comment delivered by us, but the text delivered by *Solomon*, to enter the liſt of compare. The pen-man of the allegory, without all doubt, throughly underſtood the ſubject, and fully declared it, in theſe ænigmatical phraſes: the interpreter, like his fore-fathers, may come very far ſhort of underſtanding the whole truth, and poſſibly may in ſome places miſs it; *In many things we offend all.* I know not that man, though placed in never ſo eminent a chair, who can, in the interpretation of ſcriptures of much higher concernment than this, give an infallible judgment, or paſs things from under his hand ſo ſound and perfect, which a more knowing, and a better enlightned generation, may not find juſt cauſe to correct. If what I have ſaid, may ſerve only to

to tell men, that there is a treaſure hid in this field, and withal to ſhew of what nature, and what value it is, and which way the veins of it do ſecretly paſs under ground, I ſhall have my full end thereby. For howſoever I may, in my own ſearch, in digging and delving after it, mix earth, and dirt, and rubbiſh, with ſilver, and gold, and precious ſtones; yet it will, without all doubt, give occaſion to all thoſe, who love and long after the acquiſition of ſuch treaſures as theſe, to come to the place where they are to be had. The word of God doth upon many ſubjects of natural things, though but briefly and incidentally mentioned, give a clearer and more ſure light, than all the voluminous writings of the whole ſhoal of heatheniſh philoſophers. *He that planted the ear ſhall he not hear, and he that made the eye, ſhall he not ſee?* Pſal. xciv. 9. *He knows our frame*, Pſal. ciii. 14. and the frame of all things that he hath made; and therefore whatſoever he ſaith concerning any of them ought moſt diligently to be hearkened unto, as to the beſt and trueſt word that was ever ſpoken about them. This great truth, I know many learned men are not aware of, and none but thoſe that do ἐρευνᾶν, ſearch the ſcriptures, and dig in them, as for hid treaſure, can ever underſtand. The labour that I have taken upon theſe ſix verſes,

I am ſo far confident of, as that it hath made this truth appear upon the ſubject we are now treating of, as I have already done upon ſome others, eſpecially that, *de formatione fœtus in utero materno.* And following the commendable intentions of *Levinus Lemnius*, *Valleſius*, *Rueus*, and other learned men; and the pious exhortation of the honourable Mr. *Boyle* * thereupon, if God give me life and opportunity, I may yet further cultivate the ſame theme. My deſign is plainly to perſuade men to be in love with the ſcripture; that as ſome looking after eternal life have therein by the way found out many natural things; ſo others, looking after natural things only, may yet far more happily find eternal life: like *Zacheus* gazing after the novelties of the world, and yet being in the way where *Chriſt* paſſed by, they may hear that joyful voice of ſalvation being brought to their Houſe; *neſcio quo modo ſacrorum librorum lectio, etiam hiſtorica aut phyſica, animum pietate imbuit latentur* †. This eternal concern is the principal drift of theſe holy writings of God, yet they are every where beſprinkled with abundance of other truths of leſs concernment, which will give great delight and ſatisfaction to the diligent enquirer: For they are as the garden of God, *Wherein groweth every tree that is pleaſant to the ſight, and good for food,*

* Natural Philoſophy, *p* 31.

† *Valleſius ſac. Phyloſo. in proœmio.*

food, the tree of life alſo in the midſt of the garden, Gen. ii. 2. I muſt confeſs with others, that there are many natural things herein contained, that are inconſiſtent and contrary to what we have learned in the ſchools; but that matters not; let us be ſure to make God wiſe, and him true; though every man a fool, and a liar. There are alſo ſome things which will ſtartle and amaze the beſt human reaſon; nay, that which is much farther, ſome things that our ſenſes will hardly give conſent unto; yet in all theſe difficult caſes, I have had a ready ſolution (which although it will not untie all thoſe intricate knots I meet with, yet it will looſe them, which is full as ſatisfactory) and that is, that grace and gift of God which is ἐλπιζομένων ὑπόστασις, & πραγμάτων ἔλεγχος οὐ βλεπομένων, Heb. xi. 1.

I have I hope by this time done a double good work; on the one hand I have vindicated our profeſſion, from all thoſe abominable and and filthy ſcandals, that impudent and malevolent perſons have been apt to caſt upon it; as though the ſtudies we addicted ourſelves unto, did (like the ſin of *Adam*) naturally make us run from God, and hide ourſelves from him, and patch up ſome periſhing remnants to cover our nakedneſs, after our own contrivances: whereas in truth there is nothing in all the world, that man can be buſied about, that will ſooner bring him to God, than the

earneſt beholding him in the book of the creatures; there is not the moſt contemptible being, which by virtue of the Almighty *fiat*, at firſt ſtarted out of nothing, that will not (if it be throughly ſearched and followed) at length bring us home to its eternal Father; *As of him, and from him, and through him*; ſo *to him alſo are all things, to whom be glory for ever*, Rom. xi. 36. But how much more ſhall we be inſtructed in this divine leſſon, by intimately contemplating that heavenly work of works, the ſum and height of the viſible creation, that honourable piece, *tantum non* angelical, in which the creator himſelf, reſted in time, delighted from eternity, being the true pattern of his own Divine Image; *Man*. And God in his providence having ſo ordered, that the holy writings ſhould begin with the hiſtory of the creation of all things, and laſtly and chiefly of man; doth plainly teach us this leſſon, that none are ſo idoneous hearers, or ſo meet receivers of the words of his mouth, as thoſe that have firſt well underſtood and abundantly admired the works of his hand. All which fall under our conſideration, as the proper ſubject of our knowledge; but chiefly the chiefeſt, which cannot but in the end bring us to him, who made and knows all things, as the ſaying of the woman did the *Samaritans*, *John* iv. 39, 42. and being hereby brought unto him, we afterwards hear him

ourſelves, and believe now, for his own word ſake; *That he is God, and the Father of our Lord Jeſus Chriſt, the Saviour of the world.*

We are ſo far from ſlighting or contemning the ſcripture, that we are the great admirers of it, and do endeavour to advance it above all other writings whatſoever, and that even in natural things, though never ſo accidentally or curſorily handled; and we had rather that all our other books, though very curious, and greatly valuable, ſhould be burnt; than that one line, nay one letter, one jot, or tittle of it ſhould in any wiſe paſs away.

And on the other hand, I hope I have perſuaded and prevailed with all my own brethren, to be more wiſe for themſelves, and more wary in reſpect of others, than ſome ſevere and jealous-headed cenſurers have judged them to be: that we may none of us give the leaſt occaſion for any one to ſpeak evil of the things they underſtand not; but by taking heed to a ſure rule, we may bring perpetual honour to our own faculty, and ſhame to the looſe profeſſors of a better. A light and ſuperficial knowledge of natural things, may indeed conſiſt with atheiſm, but a deep and a profound ſearch into them, doth bring men back again to God, and neceſſarily bind them over to religion. *Solomon's* wiſdom ſtayed not in the creatures, though he perfectly knew ſo great a variety; but did from them

them only (as it were) take its riſe, and mount higher than the cedars, even into heaven itſelf, and there only could find its reſt, from whence it had its firſt beginning; like the ſpirit of man, *returning to God that gave it.* Let no man think he hath ſufficient knowledge in natural things, who hath not by them been directed to divine; or that he hath viewed the creatures enough, who hath not been led through them to the Creator. Nor ſhall ever any one have my conſent to paſs for a philoſopher, who keeps himſelf ſo ignorant of the ſcripture, as with devotion to admire that academical inſcription, ἀγνώστῳ Θεῷ, Acts xvii. 23. Knowledge natural and ſpiritual are not ſo contrary one to another, but that they may very well agree together, and cohabit in the ſame manſion: nay, they are greatly conducive to the growth and promotion of each other. None can be a better evangeliſt than the beloved phyſician; and none ſo complete a phyſician, as he who is frequently converſant in the word of God; and able to evangelize: For that is the fountain that ſends forth plentifully of both theſe waters, and *is alone able to make a man perfect, throughly furniſhed to every good work.*

Now in the laſt place, I muſt acknowledge, upon the review of what is here written, that there are many things herein (I myſelf being judge) which might have been delivered after

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another manner, much more conſonant to thoſe plauſible and probable doctrines which are the products of the induſtry and ingenuity of this inquiſitive age. It is far more eaſy to be ſceptical, and to overthrow the poſitive aſſertions of others, than to produce anew thoſe which will prove more firm and laſting, or to inſtaurate better in their room. But I queſtion not but the good intention hereof will, among all honeſt and candid perſons, in ſome meaſure compenſate for all thoſe miſcarriages; eſpecially ſince by this leading attempt, in a way ſo obſcure and difficult, and withal ſo untrodden, men of the greateſt parts and abilities will be induced for the future to ſtep into, and to become painful labourers in the vineyard of God.

Which will be a moſt acceptable work to the whole chriſtian world, and moſt honourable to themſelves; for as *Hiram* was eminent in *Tyre*, for his wiſdom, underſtanding, and cunning in all manner of workmanſhip, 1 *Kings* vii. 14. yet that which crowned all his excellencies, and renowned him to this very day, was, that he came to the adorning of the temple of God at *Jeruſalem*. Thoſe learned men who exerciſe themſelves in natural philoſophy alone, produce only news-books for the preſent generation, and ſo a little time doth conſume all together: Whereas the labour that is taken in the word of God, is of a far more durable nature, and is like to run parallel with everlaſting truth.

But

But yet more particularly, I cannot but call for help upon this individual ſubject: It is my earneſt deſire that phyſicians would ſtudy the gerocomical part of phyſick more than they do: And indeed no part wants our help ſo much as this; for among all the verboſious *Græcians* there is not one compleat tract upon this ſubject only: And there are but very few to be found among all other writers, and thoſe ſo miſerable and barren, that the readers are left exceedingly in the dark, and can ſcarcely be reſolved in the firſt queſtion belonging thereunto, namely to what part of phyſick it moſt properly appertains. That one aphoriſm of *Hippocrates* * which a man might eaſily prove (would it not give occaſion to ſome foul-mouthed libellers farther to detract from the reverence due to antiquity) is not *totum teres atque rotundum*, perfect and compleat in all things; hath ſcarce been out-done for theſe 2000 ſucceeding years.

Now, as this part of phyſick needs it moſt, ſo I am as bold to ſay, it is as capable of improvement as any other part whatſoever; and the improvement that may be made thereof would be as uſeful to mankind as any one diſcovery of nature, that hath at any time hitherto been made. Let none give over their patients when they come to be burdened with the infirmities of age, as though they were

* *Lib. 3. Apho. Ult.*

were altogether uncapable of having any good done unto them; for, as this will argue great weakneſs and ignorance in the phyſician, ſo it is exceeding cruelty to the patient; for, as *the ſlothful in his work is brother to a great waſter*; ſo thoſe that are negligent toward their ancient friends, are very near of kin to thoſe inhuman *barbarians* and *Americans*, who with great pomp and alacrity, both kill and devour them; thinking thereby they perform a moſt charitable office, in delivering them from thoſe incurable maladies, which will for ever render them miſerable: But ſure an induſtrious artiſt may find out ways to be charitable at a more merciful rate. The methods which are already known to ſome more quick-ſighted herein than their fellows, do abundantly teach us, that altho' a perfect cure is not to be propoſed or hoped for; yet a conſervative cure in reſpect of age, and a complete cure in reſpect of ſome of the diſeaſes before mentioned, and a palliative in reſpect of moſt of them, may eaſily be effected. A convenient diet, and meet application of proper medicines (ſuppoſed always, the bleſſing of God thereupon) cannot but preſerve old men, and hinder and keep off thoſe miſeries which otherwiſe would ſooner creep upon them, and give much eaſe, and very conſiderable rebukes, to the violent aſſaults of all thoſe that have already taken poſſeſſion: but thoſe things which are already known by the moſt knowing

ing men in the world, are little or nothing, in compariſon of thoſe that remain yet to be known upon this ſubject. The high and ſupreme matters thereof being yet unattempted by any, cannot but ſtir up more ſedulous and active phyſicians to be aiming at leaſt at the attaining them; wherein if they ſhall not poſſibly accompliſh to their full ſatisfaction their intended purpoſe, yet ſurely they will much out-do all thoſe who content themſelves with projects of a lower ſphere.

———*Who aimeth at the ſkies,*
Shoots higher much than he that means a tree *.

The reaſons why perſons in this age fall ſo ſoon into this decrepit ſtate, and why the miſeries thereof are ſo multiplied and magnified upon them, is, becauſe either they call not in ſoon enough for help, or becauſe thoſe that are called in either underſtand not, or mind not, what they ought to do. An honeſt and an able phyſician may ſurely approve himſelf to his ancient patient (as *Ruth*'s ſon was to his grandmother) *a reſtorer of life, and nouriſher of old age*, Ruth iv. 15. Much, without all queſtion, may be done by human knowledge, for the retarding and keeping off old age for a competent ſeaſon; and for the quitting and clearing of it, from that multitude of grievances that do ſo eaſily beſet it: Though the com-

* *Herbert Perirhanterium.*

completion of this work be reſerved in God's own hand, until he ſhall bring that happy ſtate upon his people, which was typified by *Moſes*, who, *when he was one hundred and twenty years old, had not his eye dim, nor his natural force abated*, Deut. xxxiv. 7. And was plainly propheſied by *Iſaiah*, ſaying, *There ſhall be no more thence an infant of days, nor an old man that hath not filled his days, for the child ſhall die an hundred years old*, Iſa. lxv. 20.

And yet farther, it ſeems not to me in the leaſt incongruous to chriſtian religion to affirm, that life itſelf may be prolonged. There are certain ways and methods that have a natural tendency in them either to life or death: *As righteouſneſs tendeth unto life, ſo he that purſueth evil, purſueth it to his own death*, Prov. xi. 19. Abbreviation and prolongation of life ſtand upon the ſame foundation, and the ſelf-ſame arguments either confirm them, or overthrow them both together. Now moſt certain it is, that *evil men ſhall not live out their days*, Pſal. lv. 23; and as certain it ſeems to me, that good men ſhall out-live their days; elſe what means that promiſe of additional life, *My ſon, forget not my law, but let thine heart keep my commandments, for length of days, and long life, and peace ſhall they add unto thee*, Prov. iii. 2. Yet the words of *Job* are everlaſtingly true, *The days of man are determined, the number of his months are with God, he hath appointed his bounds that he cannot*

not paſs, Job xiv. 5; his preſcience and predetermination do not at all hinder the influences of natural cauſes, but he knows and diſpoſeth of them alſo, equally with their effects. And thus thoſe things, that are with us reputed the moſt contingent, are alſo fore-ſeen and fore-ordered, as well as others. The drawing of a bow of a certain man at a venture, was as well known and determined, as the death of that king that fell thereby, 1 *Kings* xxii. 34. The whole ſtory of *Hezekiah*'s life and death was alike predeſtinated, *Iſa.* xxxviii; yet he was ſick unto death, and had then certainly died, had not God lengthned out his life yet fifteen years, and had he not followed his appointment in making uſe of the plaſter of figs. *Paul*'s moſt comfortable words in his dangerous voyage to *Rome*, *There ſhall be no loſs of any man's life among you*, Acts xxvii. 22. was a true report of the ſure unchangeable and eternal counſel of God: Yet *had not the ſhipmen abode in the ſhip, they could not have been ſaved*, Acts xxvii. 31. The death and continuation of life of every man, and of every individual living creature is certainly determined; yet they ſhall both of them as neceſſarily follow their conſtituted means, as day and night, do the preſence or abſence of the ſun.

But yet, once more, it is more than probable, that ſuch noble medicines may be found out and preſcribed, that may innovate the ſtrength

ſtrength of all the parts of old men, and bring their temperament back again to equality; that may ſo fortify nature, and conſume or expel whatſoever is contrary thereunto; as life and vigour may be reſtored to ſuch a meaſure, which may ſafely be called, the renewing of youth. It is ſaid of captain *Naaman* the leper, after he had made uſe of the ordinance of God for his recovery, that *his fleſh came again like the fleſh of a little child, and he was clean*, 2 Kings v. 17. And thus through the bleſſing of God upon our weak endeavours, we daily ſee brought again from the grave's mouth, and reſtored to perfect health and ſtrength, many that were *confecti morbo*, ſpent and conſumed with a diſeaſe; and why ſome that are *confecti ſenio*, waſted with age, may not in like manner be renewed, ſeems not at all impoſſible. Nay, this *Elihu*, one of *Job*'s friends, doth abundantly prove, from the power and providence of God, when he ſaith; *His fleſh ſhall be freſher than a child's, he ſhall return to the days of his youth*, Job. xxxiii. 25. And thoſe critical returns of nature, (which are vulgarly called lightnings before death) that do uſually continue but for two or three hours, or days at the moſt, are notwithſtanding ſometimes, by the ſtrength of nature only, lengthned out to ſo many weeks or months; and there can no reaſon be given, why a ſkilful and ſucceſsful artiſt may not be made inſtrumental for the farther prolonging them, with greater comfort,

comfort, to ſo many years or *luſtras*. The whole creation now grown old expecteth and waiteth for a certain rejuveneſcency, with which ere long it ſhall ſurely be bleſſed, *Rom.* viii. 19, 20: In the mean time, this is preſented unto us in a figure, in thoſe ſeveral transformations and renovations of the ant, and ſilk-worm, and many ſuch inſectiles, which are ſoon brought to extream old age by their inceſſant labour; in recompence whereof, by a wonderful *metamorphoſis*, they are renewed into briſk and lively flies. And there are abundance of more perfect creatures alſo, which depoſiting their old ſkins, or ſhells, or ſome ſuch emblem of their age, are at certain ſeaſons brought back again to a youthful ſtate, and ſuch are ſnakes, lizards, crabs, creviſes, eagles, king-fiſhers, and ſuch like; and why ſome ſuch thing as this, or at leaſt ſomething analogous hereunto, may not be wrought upon man, the moſt perfect creature of all the earth, I am ſure no one can give an account. *David* in his doxology intimates, that there may, ſaying, concerning God in his providences, *He ſatisfieth thy mouth with good things, ſo that thy youth is renewed like the eagles*, Pſal. ciii. 5. Yet were not theſe things thus viſibly demonſtrated to us, God might in his πολυποίκιλος σοφία, *Eph.* iii. 1. alter the courſe wherein hitherto he hath manifeſted himſelf, and in ſome things he hath given us aſſurance that he

e will; the way that hitherto he hath been leaſed to take to bring our bodies to glory and mmortality, hath been through miſery, duſt, nd darkneſs, but in the laſt day he will take i nearer courſe to do the ſame thing; *Behold, I ſhew you a myſtery, we ſhall not all ſleep, but ſhall all be changed, in a moment, in the twinkling of an eye at the laſt trump, for the trumpet ſhall ſound, and the dead ſhall be raiſed incorruptible, and we ſhall be changed*, 1 Cor. xv. 51, 52.

Theſe *magnalia naturæ*, (*viz.* the preventing, alleviating, and curing (as far as is attainable) the diſeaſes before mentioned, the retarding of age, the prolonging of life, the renewing of youth) that have ſcarce entred the thoughts of vulgar pretenders to phyſick; have been as unto the practic part under our conſideration, with like care and induſtry, as what you here ſee in the theory; and that from principles gathered up, not only from reaſon, reading, and experience; but from ſome eminent inſtructive expreſſions of holy writ, which are not obvious to every curſory and ſuperficial reader: all which may alſo be communicated to you in a convenient ſeaſon.

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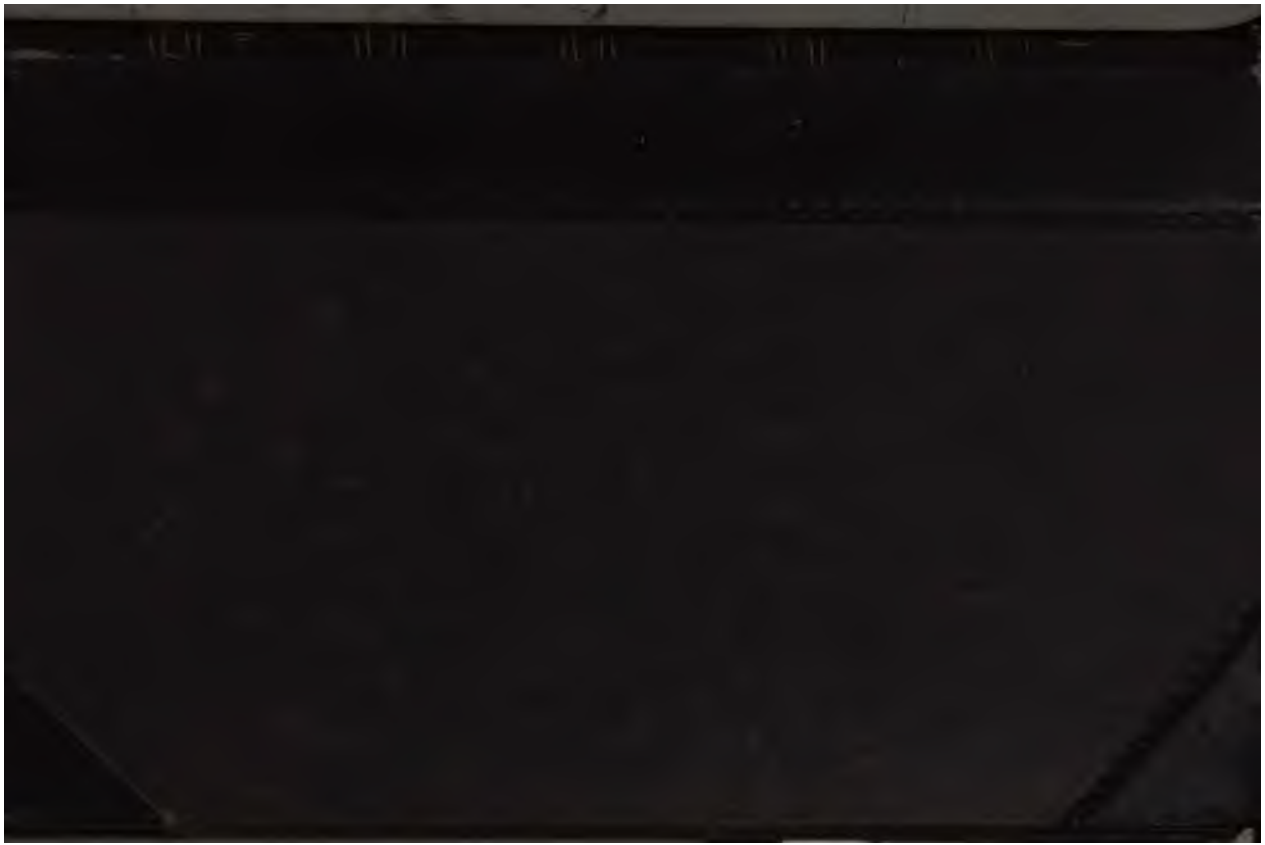
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